

Childhood Education

The Magazine
for Teachers
of Children

To Stimulate Thinking
Rather Than
Advocate Fixed Practices

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FRANCES MAYFARTH, *Editor*

JANE MULKERINS, *Advertising Manager*

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Next Month—

A two-way approach to "Working With Children As Sociologists" will be made in next month's issue. What are the near and the far problems that must be solved if man is to live happily in an atomic age?

The social concepts children should be developing, descriptions of experiences out of which these concepts can be developed, and the cultural forces that determine both the concepts and the experiences will be considered.

I. James Quillen, Leland B. Jacobs, Muriel Crosby, Agnes Snyder, Marie Urrer-Pon, Leo Shapiro and John Robinson are some of the contributors to this issue.

News and reviews will complete the issue.

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Children Are Scientists

Physics and Human Affairs

—Some Parallels

Mr. Hawkins, associate professor of philosophy at George Washington University and historian for the Los Alamos bomb project, draws some parallels between the problems met by the atomic physicist and by those who work with children. The role of the investigator in human affairs and behavior and his effect upon the material with which he works have implications for future research in human development.

WHAT LIGHT DOES THE DEVELOPMENT of physical science throw upon the study of children and their affairs? None, perhaps, if we think only of technical accomplishments. The grasp and control of physical processes our society has gained are increasingly impressive. But the meaning of this impressiveness escapes us if we take only the external view. Physical science is not just a body of knowledge and technique but an enterprise to which our culture is committed and by which it is profoundly influenced. It is from this self-conscious point of view that we can make out the continuity of physical science and education.

The growth of science has transformed our conception of nature and therefore has also changed our understanding of man's place in nature. To our primitive ancestors the physical world was something to come to terms with but hardly to master and control. Even in Greek and Roman times nature was conceived as a fixed and stable order to which man must make his meek adjustments.

This view no longer holds us. Our science grew out of the study of the practical arts: agriculture, manufacture, mining and commerce. When it had acquired its own power of growth,

this new intellectual enterprise did not lose its connections with industry but multiplied them. To understand our physical environment is to have within our power the means for altering and controlling it. In the very language of modern physical science, nature is conceived as a storehouse of materials and energies which we can shape and direct according to our purposes. Technological evolution, however, goes hand in hand with social evolution. In remaking his natural environment man has remade himself as well.

Changes in man's working relations with nature have always raised new social problems and liberated new social energies. These induced social changes have seldom been intended or foreseen. The search for new land, the improvement of navigation, the invention of new machines have served to satisfy immediate needs and solve pressing problems. Men have not been interested in the remoter social consequences of their innovations or able to predict them.

In modern times, however, the growth of the productive system and of the economic and political institutions surrounding it has been so rapid that the connections between these two sides have become obvious. While phy-

sical science grew up on the one side, the need for social science appeared on the other. Economics, history and psychology are oriented around the problems created by our rapid social evolution and seek to give us guidance.

Where Do the Social Sciences Fail?

The two sides of our scientific development have not progressed equally. While physics and chemistry found quite early what the philosopher Kant called "the sure path of development," the same cannot yet be said of the social sciences. An important reason, perhaps a sufficient one, lies of course in the complexity of the behavior of human beings.

Other reasons, however, have been widely felt and discussed. Because of the rapid and early development of physics, it has long since come to be regarded as a kind of model science. To the extent that this attitude has prevailed, good reasons have been seen why the social studies cannot become "scientific." We must examine the model to see where the social sciences fail.

When we look to the kinds of phenomena that physical science is able to describe with some completeness, we observe that there is one simplifying condition without which its impressive success would hardly have occurred. This is the possibility of isolating the phenomena studied, of making controlled experiments and observations. It is noticeable that science first grew in fields where nature presents us, so to speak, with controlled experiments ready-made. To investigate the physical laws of geometry, for example, all that is needed are rigid bodies, flat surfaces and straight lines. But these are given us in nature or by the implements of primitive industry.

Astronomy is another example. The motions of the planets while complex appearing are almost perfectly recurrent, hardly disturbed by interactions or external intrusions.

In physics and chemistry the control of experimental conditions has become progressively more difficult as these sciences have advanced. But their earlier achievements stimulated the industrial revolution which in turn provided the experimental tools for further advances.

From this point of view some of the difficulties of social science become apparent. Important phenomena in this field are typically a result of many interacting factors difficult to disentangle or modify. To isolate a thing for study means, moreover, that we are able to describe it in terms of constant relations which we can then reapply in other and wider contexts.

But human beings respond to so many subtle factors in their environments that such relations are hard to discover. Even a new-born infant may respond more significantly to the psychologist than to the "stimuli" which the psychologist hopefully presents. How long do nursery school children remain unaware of a one-way screen? I give only these simple examples but they can be multiplied many times over.

In addition to difficulties of observation there are analogous difficulties in social theory. Not only the material but the investigator is embedded in a culture and the investigator cannot wholly appreciate the influence of that culture on his thinking. Much that is accepted in one culture may appear as "ideology" to another. We all make the distinction between fact and opinion. Because it appears so difficult to apply, many social scientists have

admitted or even urged that objectivity of the sort physical science achieves is ultimately impossible in their work.

Atomic Physics and Experimental Controls

Under these circumstances developments in atomic physics in the last two decades should be of extraordinary interest. These developments are connected with the formulation of a new generalization of the classical laws of physics called quantum mechanics, applicable to the basic phenomena of the atom. This theory now completely established on an experimental basis is important for our purposes because it represents a revision in some of the basic conceptions of classical physics. If classical physics is a model for other sciences, it is no longer a model for physics. The model may need revision also. What is especially important for our purposes is the fact that this new theory makes possible the systematic description of a new range of atomic phenomena which cannot by their very nature be investigated in terms of experimental arrangements controlled in the old sense.

The quantum mechanics is distinguished from classical physics in implying the impossibility of a sharp separation between atomic phenomena and the tools by which they are investigated. The result is that one can no longer suppose that the *same* phenomena are investigated under *different* experimental conditions. In fact the minute phenomena of nature exhibit a richness and complexity of behavior as well as a simplicity in certain of their patterns that would be quite impossible to describe in terms of classical physics.

It is characteristic of the quantum mechanics that when its mathematical expressions are translated into familiar

physical conceptions, statements have to be made which would contradict each other were it not for the fact that the phenomena they describe can appear only under mutually exclusive experimental conditions.

Those who have commented on this remarkable state of affairs in modern physics have often emphasized only the negative side of the picture—the impossibility of a detailed cause-and-effect description of atomic events. What has not been emphasized enough is the great positive gain that has resulted. For example, quantum mechanics makes it possible to explain the ordinary solid state of matter which in classical physics was unexplained. It has led to the unification of physics and chemistry and is indispensable in fundamental biological research. Even the statement that cause-and-effect relations break down is misleading. It is more proper to say that too complete an experimental control destroys the very phenomena one is investigating.

The Role of the Investigator

As a result of the history of quantum mechanics those who have contributed to this field have acquired an appreciation of the importance, in science, of the role of the investigator. The conception of the wholly detached observer is no longer a possible ideal. It is replaced by the conception of an observer who is self-conscious about his own practical, working relations with the material he is investigating and who understands that knowledge and action cannot be separated completely.

What appears as a refinement or a discovery in physical science is almost a standard situation in psychological and social investigations. Yet the prestige of physics has been such that the dif-

difficulties of achieving ideally controlled observations has been viewed in the past as a sign of failure. We all know of studies in the educational field which have aimed so rigidly at being "scientific" that they have in the end dealt only with trivial phenomena. And many teachers who have worked with real and difficult problems of personality must have done so with the uneasy feeling that their work was "unscientific," simply because it did not conform to the standard pattern of statistical investigation.

Under the circumstances it is perhaps worth considering that some of the more important characteristics of human beings—for example, their responsiveness to other human beings—may cease to exist under experimental conditions that are too completely controlled. If the entire history of a human being were so carefully controlled as to make a really "scientific" description of his behavior possible, there would seem to be no reason, in principle, why this should not be done; only it is not certain that he would then be a human being.

Perhaps the problems of teaching and those of clinical psychology into which teaching merges show the clearest parallel to the problems of the observer in atomic physics. The teacher must learn many rules and techniques. The shy child needs to be given a job. The naughty child needs to receive attention for things other than his naughtiness. So far we can prescribe a standard treatment for a standard condition. But while a competent teacher goes as far in this direction as possible the treatment is only peripheral to the main task; it only serves to create or protect a situation in which a group of children can learn. Treatment does this

because it breaks down barriers between teacher and child or child and child—barriers that weaken or prevent common effort and communication. These same barriers, however, are the things that make it possible to describe a child's behavior in terms of sharply defined stimuli. As long as the teacher is only an investigator and the child only a subject of investigation, she has not yet accomplished her purpose *as a teacher*. At the point where teaching begins it is necessary to accept the fact that the child is *also* an investigator and the teacher is *also* a subject.

I would not wish to be misunderstood as holding the familiar view that what happens in teaching lies beyond the possibility of scientific interpretation. But I do wish to say that no theory of the child, and of his learning processes can be adequate which is not also a theory of the child-child and child-teacher relation. Only such a theory can provide guidance in a situation where the teacher is an inseparable part of the learning situation.

Perhaps this point becomes clearer in psychotherapy. The therapist must enter into close personal relations with a patient. Here again there are many techniques but they serve only to set the stage and to establish communication. Beyond them, the therapist must preserve the flexibility and spontaneity which are an essential part of any real communication. That is, he must destroy the possibility of describing the patient's responses in terms of well-defined stimuli. For the patient is also a therapist and his discovery of this fact is an essential part of his treatment and cure.

Theories of personality which have developed out of clinical work are always implicitly or explicitly theories

of inter-personal relations. What the "person" is, when considered out of this context, we have hardly any way of knowing. If indeed we follow the logic of modern physics, we may be forced to the conclusion that it is not possible to assign any clear meaning to that question.

This is not to say that the human being cannot be described by behavioristic methods. On the contrary, one should foresee no limit to the possibility or value of such studies. But one should not expect them to yield information identical with what can be learned through procedures which require the abandonment of completely controlled external conditions. Nor need we expect any one-to-one correspondence between the two approaches. The subjective language of personality and the objective language of behavior corre-

spond to aspects of human nature which can be described only under mutually exclusive conditions. For this reason neither can swallow up or contradict the other. They are, in a word, complementary.

This article cannot do more than suggest the possible value in psychological and social studies of a closer examination of the relativity of phenomena and theories about them to the role of the investigator. As against the classical ideal of the detached observer, the physicist has been forced to acknowledge his physical participation in the processes of nature. By the acknowledgment he has gained in understanding and power. This fact should provide encouragement and guidance for those who believe that in human affairs also, knowledge and action must go hand in hand.

Down Payment

Excerpt from a letter written by a student-teacher to the editor of the Greensboro Daily News

I AM A STUDENT AT THE WOMAN'S COLLEGE OF NORTH CAROLINA. I am to graduate in June, along with twenty-five other girls, with a certificate to teach in the primary grades of North Carolina.

We are planning to teach not because we want to make big salaries, but because we love children and because we realize that the future of a very unstable and imperiled civilization will be decided by the training of the children throughout the world.

Teachers do not receive salaries that are adequate—I think no one will dispute that fact—but we realize that we can't start at the top or we may find ourselves without anything.

WE ARE, PERHAPS, TOO YOUNG AND starry-eyed. I only hope that I will be able to hold to my belief that the training of children, who love and trust me as their teacher, is the major payment that is to be gained in teaching.—BETTY REAVES LEONARD.

Children As Scientists



By HERBERT S. ZIM

Children are scientists in their urge to learn; in their interest in experimenting, collecting and observing; in the vividness of their imaginations and in their desires to create. The kind of science education necessary to stimulate these qualities and to live happily in an atomic age are discussed by Mr. Zim, science consultant, Ethical Culture Schools, New York City.

THOUGH THE VIEW FROM THE window and the headlines in the newspapers are still very much the same, the entire world underwent a great transformation on December 2, 1942. On that day, at the University of Chicago, the atomic age was ushered in by a tense and awed group of scientists around the first successful atomic pile.

The scientists are still awed by what happened. The rest of us have already reduced the event and its significance to a series of platitudes which satisfy our perturbed minds. Whatever we do, the children in elementary schools today will grow up with the atomic age. It

is very probable that as young adults they will be making the first broad practical uses of atomic power in an age very different from ours.

Teachers have been challenged by a new era of science and they ask what the events at Chicago and Hiroshima mean for them and their work. Science is in the spotlight again. Do we need more of it or less? "Science got us into this," some say, "how can it get us out? What must we learn in order to survive?" These questions have come at the crest of a scientific flood that carried us through to "victory" in a second world war. Industry joined in, too, painting a glowing picture of the gadgets that would transform the post-war world. And so teachers have rightly been concerned about science and its place in the curriculum.

"What science should we teach our children?" they ask anxiously, thinking about the complexities of nuclear physics, streptomycin and plastics. Perhaps it would be a service to teachers to remind them that children are scientists and that we might well use this fortunate fact in education.

That children are scientists is a truth worth repeating with emphasis; that they are also artists, musicians, and social beings we know. But *young* children particularly are more scientists than they are anything else, if we avoid a narrow professional concept of scientist. Lest the statement does no more than provoke the reader into a terse "so what" let us look briefly at children's behavior to observe its scientific connotations.

What Behavior Reveals

The child starts to become a scientist with those basic reactions that first make him aware of cause and effect. Some of these reactions are nearly in-

stinctive. When these associations are made with attendant emotional satisfactions the infant repeats an action in the hope and later in the certainty that a desired effect will follow. By exploration and trial, new relationships are discovered which build up the infant's experience and give him his foothold in life. Science is but a refinement of these activities just as the experimental method is a systematic improvement on trial and error.

To go further, all normal children possess curiosity about their environment, a quality that is essentially scientific. Children's persistent questions, though sometimes motivated by a desire for security, are one outlet for curiosity which expresses itself in activity patterns as well as verbally. So does the curiosity of the scientist. The scientist *must* seek verification of his ideas through some experimental activity and not through the words of others.

Young children never hesitate to offer explanations of even complicated phenomena. They may be completely in error but they develop a surprising logic in the hypothesis they set forth. As an outside visitor to nursery and preschool groups I have been impressed by the logical and essentially scientific way in which young children tackle problems that come up in their play. If it weren't a cardinal sin to mention them, I'd say the same about my own children. Such free imagination is the prized gift of top researchers and its lack dooms less fortunate professional scientists to routine minutiae.

We recognize, of course, that the professional scientist must possess more than curiosity, a questioning attitude, free imagination and creative manipulative ability. But all else that he re-

quires—a grounding in scientific facts, the ability to use apparatus, skill at analyzing problems and setting up experiments would be of little significance without these basic qualities.

It has been repeatedly suggested that scientists have made their great creative progress because some have been able to preserve and use these very qualities that we see so clearly in the young child. The biographies of our greatest scientists disclose that Newton, Faraday, Darwin, Pascal, Liebig and many other men of renown either carried through their early childish interests or became interested and active in science well before adolescence. The Biblical admonition that "a little child shall lead them" may have a broader significance than we ever imagined.

What Kind of Science Education Is Necessary?

If children are as essentially scientific as professed here, the fact alone should stand as a clear indictment against an education and a culture that blunt their imagination, stifle their questions, discourage their curiosity and dull their creativeness. The processes which do this so effectively are worthy of detailed study. So are the personalities of those few who survive with enough curiosity and imagination to set out on a career in science. Yet in this total situation we must provide answers for teachers who ask, "How can science help children learn to live together? What scientific backgrounds do children need in order to be able to control and use their environment wisely?"

Such questions are not easy to answer. We are so confused as to have substituted for action the pious hope that our children will do better than we have. And we implement this hope by training them to think and act ex-

actly as we do! Besides the training of more specialists, what kind of science education does our age require?

Science has delivered mankind into the hands of specialists to a degree never before achieved. The urban citizen lives and enjoys life through media he could not reproduce and which, in many cases, he cannot understand. He is fast approaching a stage where he doesn't even have to control his devices. He snaps a switch or turns a dial to get light and entertainment. More and more of the services he demands are becoming automatic. When the temperature falls, the furnace raises it to a point predetermined by the thermostat. As the sun sets, a light-sensitive switch turns on illumination. The automatic factory already exists. The production of many less complicated devices may soon be affected by electric or hydraulic machines operated through automatic electronic controls which need only the attention of a supervising engineer. This is the pattern of science in our world of today and the path of its development in the future.

We cannot escape the fact that the energy and materials of this scientific age are and will be controlled and used by people who completely lack comprehension of what they are doing and using. If this seems a broad statement let us ask our friends to explain television, penicillin, helicopters or even nylon, glass or cellophane. I think it fortunate that we can use our technology without understanding it. We do not need a science education to turn on lights, radios or ignition switches. We do not need a science education to "appreciate" the radio, nylon stockings or even the scientist. "Appreciation of the achievements of science" is as hol-

low a phrase as ever found its way into a list of educational objectives.

Just where do the scientist and the layman get together? The support of science is mainly in the hands of industry—and industry has shown itself quite capable of its own self-perpetuation. Government-financed science moves steadily along, supported by a minute share of our taxes—a share so small that the amount could be increased twenty-fold and still be of no concern to the taxpayer. But in the fields of conservation, personal and public health, a certain amount of public cooperation is essential for the specialist to achieve his goals. And because we have shown little interest in conservation, scientists have solved some of the very critical natural resources problems by the discovery and utilization of substitute materials.

The industrial workers in agriculture and other less mechanized industries have needed to know the scientific techniques involved in their work. This need is passing. To do a good job of contour plowing, it is already possible to direct from the back porch a radio-controlled gang plow. Grain is planted and crops are sprayed from the air. In brief, the average person finds that very little knowledge of technological devices is essential for their use. The whole theory of mass production rests specifically on this point; so does most of our personal and social life.

We need not feel a responsibility to teach science to children for the primary purpose of giving them information to deal with the complex technical world. The child of five can turn on the radio just as effectively as can the physicist who understands the electronic principles involved. There are very few areas of essential scientific

knowledge for the laymen and much of what the individual needs can be picked up in learning a job, developing a hobby or in the course of everyday living.

Far too much emphasis has been given to science education for direct use in our technological age. The facts just do not support this contention. Certain factual knowledge of physiology and psychology may be of distinct value, if associated with sound attitudes toward problems of individual or group living. These are of broad import but they have generally been neglected in our rush to teach youngsters how a thermometer, a hot-air furnace or an electric light work. Yet even in matters of health and group living that touch us most closely, our lives are far from rational.

Will the child need a knowledge of atomic energy to survive tomorrow? He will not. And the chances are that a detailed knowledge of genetics will not have an appreciable part in his selection of a mate. If this type of knowledge is not essential, what is? Has science value only for the science specialist? What about the individual who may function in life as a housewife, advertising salesman, dairy farmer or truck driver? Has science an essential role in his education?

It most certainly has. Its role centers on the task of making the future housewife, salesman, farmer or even scientist a better person. Better in the sense of being better able to function as an individual in a complex technical society and achieve maximum happiness and usefulness in the process. The goals of science in general education—especially in the elementary school—are in this direction. Thus, the end of most science education is not to create the specialist at all but to help the average in-



dividual. Because science lays such emphasis on questioning, experimental and creative attitudes, it may be a better means of achieving these personal-social ends than other subject-matter fields.

It is, indeed, unfortunate that during the past two centuries nearly all science has been applied to technology. We have progressed beyond our dreams but now we urgently need more science in education, government, economics, group living, philosophy and even in religion. Our problems in these fields will not be solved by turning to the professional scientists, most of whom are unable to visualize the problems in unfamiliar fields, much less attack them scientifically.

Our science education should aim to produce what we need beyond all else—people whose scientific attitudes are unhindered by the narrowness which often comes with specialization. In short, we need the child-as-a-scientist grown up to become the adult-as-scientist—a per-

son who can look scientifically at problems of economic instability, inequality and discrimination; at ineffective distribution of goods and lack of resource planning. We need persons who can determine facts and to some extent goals by scientific methods and who can seek for compatible solutions.

The Responsibilities of the Teacher

In the face of such an undertaking, the teacher may be tempted to throw up her hands in dismay. But teachers who have never taken a science course in their lives and who would never think of themselves as science teachers are critically needed to implement this program. There are far too few science teachers, especially in the elementary grades, to do the job even if it could be relegated to the specialist. The non-specialist teacher can do a great deal in science teaching and it is important that she do it. The task has only three major phases: helping children to find information on the many things that

arouse their curiosity; organizing and guiding situations in which they can experiment and discover facts for themselves and, finally, encouraging pupils to evaluate their own ideas and conclusions. Success in this task calls for a "good" teacher but does not require long specialized preparation.

The crux is not to *teach* science to children but to give them opportunities to experience the processes of science. The goals of science education are achieved much more fully through participation in the processes rather than in the learning of facts.

The role of facts should not be minimized. They are as important to the scientist as color is to the painter. Many of the questions children ask require only simple factual answers. The teacher can easily obtain these answers

from elementary and junior high school science texts or from the many fine informational books for children if her pupils cannot read for themselves. The teacher should not go beyond her depths in seeking information. Avoid technical volumes and encyclopedias like a plague. The local high school science teacher will help, and further assistance is available from museums, the weather bureau, the health department, industries, and from many federal and state agencies.

Elementary science texts will do more than give the teacher information. They often suggest activities through which pupils will find answers for themselves. Such simple experiments are the core of science. No verbal explanation can match the educational value of experiences in planting seeds,



We plant the pansies

Photographs courtesy John Ripley Forbes; Louise Gross; Ruth Lippenberger; U. S. Office of Education; Public Schools, Los Angeles, California

making dew, finding out why things float, seeing how fish swim, watching flowers unfold, listening to a heartbeat or running an electric train. There is science in block building; in making a store, a boat or a map of the town. The class teacher who is also a science teacher knows the values of following the local brook, visiting a nearby farm or watching the rain form rivulets in the schoolyard.

Children need the opportunity to collect, experiment, explore and work together. They should be encouraged to make their own explanations of things around them and to test their ideas by experiments or by checking with books. However, there is no single method, scientific or otherwise, that the teacher can follow in this important work.

As important as these techniques is the teacher's willingness to face problems and questions with her pupils and to seek answers together with them. Facts learned in such a situation have an enriched meaning. Children will ask more questions. They will maintain an interest in the many things that make up their world. Their curiosity and imagination will grow.¹

The remainder of this article will be devoted to a discussion of the ways in which the science consultant functioned in the development of science experiences for children and to accounts of these experiences prepared from reports by teachers in the Ethical Culture Schools, New York City.

How the Science Consultant Functioned

This year I have devoted my time entirely to the primary grades. There

¹ Some techniques have been suggested in *This Is Science*, a bulletin of the Association for Childhood Education.

I have tried to help twelve teachers and their assistants help their pupils with science experiences in the classrooms. I have tried to function as much as a consultant as possible and consider my more successful classes those in which I have done no direct teaching but where the experiences have involved only the class teacher and pupils. In some classes I have functioned more directly but always by introducing materials or developing situations which can continue to operate after I have moved on.

The class teachers have been more than willing to cooperate and as a result all the science taught the four- to seven-year-olds has come from class situations—sometimes involving the whole group, sometimes only a small number. We have touched on everything from ourselves to the stars and have worked with fire, electricity, light, magnets, boats, airplanes, steam engines, fossils, mercury, radio, rabbits and goldfish. Some of the activities have been short, almost momentarily—fifteen or twenty minutes. Others have persisted for nearly three months.

This has seemed a natural, realistic approach to science with these age groups and I think our experiment is quite a success. As a consultant I find that it is only on very special occasions that a verbal exchange of information is desirable with the nursery or pre-kindergarten group. The job here is to supply the class teacher with occasional materials—plants, fish, rabbits, balloons, magnets and mirrors. Children these ages *do* a great deal of science but there is little occasion to verbalize their experiences.

With the five-, six- and seven-year-olds there are more attempts to "explain" and make associations and so science blossoms out and takes on many

forms. The children, the class teacher and the specialist bring things into the classroom for others to see but the informational aspect is less important than the idea of sharing experiences and finding opportunity for questions and answers. In fact, it is the setting up of a scientific "climate" that seems most important in the primary grades. Encouragement of curiosity, opportunity to experience and experiment help.

The complete record of activities in the primary grades so far this year would involve about forty major experiences. The teachers have sent me notes on a number of these and I have brought together my notes and theirs in helping to shape up the reports below. Since these are brief, they stress what we did but neglect two important aspects—why we did it and what came of it. I have implied a bit of the why already; the evaluation is more difficult and we should truthfully say that we do not know the results. We do not expect to develop "scientists" but a number of the children clearly exhibit their curiosity through questions and actions. We find, though, that they are not very interested in learning facts but that many are remembered and used. Above all, there is the satisfaction that comes with success and a very positive feeling toward science.

The teachers whose reports are given here were new to the school this year. The fine work they have done has come in addition to their adjustment to a new and sometimes difficult situation. We will all sit down to judge our experiment toward the end of the school year and, if it then seems as satisfactory as it does now, we shall continue it through 1947-48.

There were problems—this approach

requires time for the consultant and class teacher to confer and there is never enough time. The consultant cannot do justice to all the situations which come up and some opportunities are missed. The classroom teachers need help in making the important decision of when to use the consultant and when to work alone. It is a temptation to have a specialist around. None of these problems is serious and we are making progress with them.

Here are the teachers' descriptions of children's science experiences.

BUS BUSINESS

By ALVIRA MARQUETTE

The six-year-olds built a bus out of blocks but were disappointed in the result: the bus was constantly in the process of reconstruction because the blocks kept coming apart. The science consultant helped obtain materials with which the group built a streamlined bus with seats and a roof. Flashlight bulbs with coffee-can reflectors made headlights and a bell with a push-button permitted the passengers to signal the driver.

To use these materials the group mastered simple electricity and learned to connect an electric circuit involving batteries, wires, pushbuttons, bells and lights. While doing the construction work the group dictated questions about the bus—questions dealing with everything from the windshield wiper to the motor. From direct experience, the children who came to school by bus were able to get answers to some of the questions.

After the group had made some progress with the bus, we all went to the science laboratory to see some experiments which helped explain how the motor worked by explosions of

gasoline and air. Then the group visited a bus terminal to see buses of different types stored, cleaned and repaired. Here was another opportunity to ask questions and get answers, and they used it.

The bus project continued as a major class undertaking for over two months. It involved art work, block building, group planning, storytelling and science. Everyone participated with four boys and later three girls as the leaders.

COTTON, WOOL AND FINGERNAILS

By SALLY HOUK

Soon after my six-year-olds began weaving in October, Peter asked whether the brilliant balls of roving were really wool. He had brought a picture of men shearing sheep and wanted more information. We had been speaking of the balls as wool until the question came up.

Peter suggested we ask Mr. Zim to help us tell the difference between cotton and wool. He brought us some absorbent cotton and a handful of raw wool and showed us how. Though they looked somewhat alike we could see the difference by holding a tuft of each to the light. The wool fibers had a decided twist; the cotton fibers were smooth and nearly straight.

We went to the laboratory and these differences were seen even more clearly under the microscope. Wool felt different from cotton, too. We watched as Mr. Zim took a match and lit a tuft of cotton. It burned very quickly and barely left any ash behind. The wool hardly burned at all. It formed a heavy black ball which smoked and sputtered. Everyone noticed the smell of the burning wool. We dipped a sample of wool and cotton into water. The cotton soaked up the water quickly while the wool barely got wet.

Now that we knew how to tell wool from cotton, we tested our roving and found that it was cotton instead of wool. But we did not stop here. The children began to examine their own clothing and learned to tell cotton from woolen garments with ease.

This activity had a curious aftermath. After answering some questions about "how wool grows" Mr. Zim told the class about the similarities between wool, feathers, hair and fingernails. He showed us how all of these grow from the skin and how they all turn yellow when touched with nitric acid. A very small drop of nitric acid was put at the base of every child's fingernail and soon an absolutely indelible mark appeared. We then had a race to see how long it would take the tiny yellow spots to move from the inner to the outer edges of the fingernails. It was nearly two months before the first mark reached the outside. At this writing a few marks still remain. Mr. Zim cautioned us against making comparisons because fingernails are of different sizes and the spots were not placed accurately. But the children all found it exciting to see this aspect of their own growth.

SEEDS AND SUCH

By NANCY DICKERSON

Our city children have very little contact with the out-of-doors during the school year except for the pigeons and sparrows and the trees they see in the park. The plant life is meager enough but it has occasionally borne fruit in a very literal sense.

During a park play period late this fall Judy picked up some seed balls from the oriental plane trees planted there. Not being sure as to what they were she took them to the science consultant to find out.

But Judy wanted more than identification. She wanted to know if the seeds in the balls would grow if planted. The science consultant explained that some seeds grow readily when planted but that others required a resting period before they germinate. He advised Judy and her seven-year-old classmates to find out and showed the group how to germinate the seeds on wet blotting paper in a covered dish. Several dishes of sycamore seeds were set out and there was much excitement when some sprouted two weeks later.

This success resulted in a flood of seeds—osage orange, maple, sweet potato, persimmon and seeds from the Hallowe'en pumpkin. All the seeds were planted. The osage orange seeds spoiled; the pumpkin and a number of the other seeds grew nicely and some of them were transplanted into flower pots. The class also grew peas and beans and watched roots, stems and leaves form.

The continued interest in seeds led to a study of some of the plants around the school. We broke open clumps of snake plant which had been flourishing all summer, saw the new shoots arising from the underground stems and cut the clumps into new plants. We watched ivy root in water and grew sweet potatoes and onions. As Christmas drew near we started narcissus bulbs to take home as presents. The group has since gone on to other things but the interest in plants persists. Today all available window and table space in our classroom is crowded with plants.

MANTID INTEREST

By JEAN BRIGGS

One night last fall a preying mantid flew onto my window screen. I brought it to the kindergarten the next day and the children crowded around the jar in

which it was kept, asking questions about it. We had no way to feed the mantid which we knew lived on other insects.

The kindergartners next door caught a grasshopper in the park but they did not intend it as mantid food. The next day, however, the grasshopper was dead and we were offered it as a gift. The mantid would not touch it.

The science consultant who was visiting our class wiggled the grasshopper in front of the mantid. It saw the moving grasshopper, grabbed and ate it then and there. Interest in the insect lasted a few days after which we turned it loose in the park.

MICA SCHIST

By RUTH GEIGER

One child brought to school a piece of mica rock she had found in Central Park. When Mr. Zim came to visit our kindergarten we showed it to him and learned that the rock was called mica schist and that most of the rock underlying New York City was like it. But our piece had more mica in it than usual. We found we could pick the mica apart and this became an important activity.

Mr. Zim brought us some more mica and showed us how it was used in electric irons and in fuses. We were mostly interested in splitting the mica into thinner and thinner bits and we did this until all the rock was gone.

The Hope of the World

If the twenty million school children below high school age can develop scientifically in their thinking and activities, we need have no concern for the eventual outcomes of the atomic age. That the young child is a scientist is more than a challenge to teachers. It is also the hope of the world.

Bunnies, Buns and Babies

A day in the kindergarten at Swarthmore Public School is described by Mrs. Enders, the teacher. How science experiences were a part of the day's activities and how some concepts concomitant to them were developed illustrate children's interests in the world around them and how they can be used to enrich living.

AT 8:45 THE KINDERGARTEN CHILDREN arrive, red-cheeked from the frosty air. "Oh, there are our rolls! Did they rise?"

Some go over to the radiator to see the yeast rolls that they had measured, mixed, kneaded—even pinched and pounded—the day before. One child remembers the roll outside the window in the subfreezing weather. "Look at the roll outdoors. It isn't any bigger. It didn't rise."

"No, it didn't. You remember yeast needs a warm place or it will not make the gas that causes the bread to rise."

"Oh, look! What is that on the floor of the rabbit cage? Is it—is it *babies*?"

All who hear rush to the cage to see.

"Yes! It is *babies*."

"We have babies."

There they are (and we weren't expecting them).

They seem scattered over the floor of the cage. Ten babies—ten little pink, hairless bundles. We look anxiously at them. They look very still.

"Are they alive?"

One is moving a little, another yawns, another stretches. The big rabbits do not seem to notice them. We carefully take the baby bunnies out, put them on some hay in a flat pan on top of the radiator. They are all cold, even the ones that move are cold to touch. Maybe there wasn't enough bedding in the cage to keep the newborn babies warm

on such a cold night. Maybe the father bunny trampled on them.

We watch the babies on the radiator carefully to see which ones are moving. The children understand they must not handle them until we find out which ones are alive.

Some children stroll away to play. Others still watch. Another looks at the rolls on the next radiator. "When are we going to bake our rolls?"

"Soon, but we must take care of our baby rabbits first. We must find out quickly which rabbit is the mother and which one is the father."

"Do you think the mother is Pinkie (the all-white one) or Winkie (the white one with brown ears and a brown spot on the nose)?"

We Call In the Specialists

We don't know. Several months ago one adult had told us we had two males. Later another adult had told us we had two females. Only last week the children and I had discussed why we couldn't have baby rabbits. We couldn't have baby rabbits if we had two girl rabbits or if we had two boy rabbits. The children, anxious to have baby rabbits, had voted to exchange one of the rabbits so we would have a pair—a male and a female.

One child, remembering this discussion, asked, "Did we exchange one of the rabbits?"

"No. We will talk about that later

but *now* we must find out which is the father and which is the mother rabbit. The mother rabbit must stay with the baby rabbits to feed them and the father rabbit must be taken out of the cage, for father rabbits often kill baby rabbits."

We telephoned the Swarthmore College biology department. Two very obliging biologists came down immediately to school. They looked at the rabbits and said, "This is the mother." (It was Winkie, the white rabbit with brown ears and a brown spot on her nose.) "The father rabbit must be taken out immediately. The babies must be given back to the mother. She must not be disturbed. She needs quiet." Then the biologists left.

We took the father rabbit, Pinkie, out of the cage and let him hop about in the room. Of the ten babies only three were alive. We carefully put these three back with the mother and gave her some extra bedding. The mother rabbit started pulling hair out of her chest to make a fur lining for the nest to keep the bunnies warm.

We called the children together to talk over the situation. The mother must have quiet or she would pay no attention to her babies and would not feed them. If she were frightened she might kill them. The twenty-four children decided what they could do to make it more quiet: no wheel toys, no running, no playing fire engine but they could paint, crayon, use clay, build with blocks, play in the sand or roll the ball.

Activity Continues

One child said, "Now we must bake the rolls."

"Yes, the rolls must be baked."

The two pans of rolls were taken downstairs to the cafeteria oven.

Ten o'clock came—time to clean up.

"Can we leave our house?"

"Yes, if it is well built."

"May we have our milk in our house?"

"No, it is too dark inside but you may have it on the flat roof."

Soon the children had cleaned up the room, washed, put all of their cots down and were at the tables and block house ready for milk and crackers.

Qui-i-i-et Ple-e-ase is sung. All is absolutely quiet for a few seconds and grace is sung.

A child asks, "Do you think the rolls are ready?"

"We will see."

A group goes down to the cafeteria with the teacher. They bring up the one pan of rolls that is done.

"I want to take my roll home."

"So do I."

"I'm going to eat mine."

Some eat them. Others wrap them in napkins and put them in their lockers to take home.

When each child finishes his milk and crackers or roll he rests on his cot. For fifteen or twenty minutes we sing softly while the children relax.

The mother assistant and a few of the children go to the cafeteria to bring up the second pan of rolls. A child is chosen to wake the sleeping children. Each child knows his own number and puts his cot away in the right place. Then he comes over to the piano for a story, rhythm band, or conversation. Today there is no rhythm band because it would frighten the mother rabbit. Dickie is chosen to mark the day on the calendar. He looks out of the window to observe the weather. The sun is shining so he draws a sun.

"What else shall we put?"

"Let's put ice."

"Yes, we could put ice but we have ice so many days. Something happened today."

"We baked bread."

"Yes, we can put bread. Something else happened."

"Oh, the rabbits. The bunnies were born. Let's draw a picture of baby bunnies."

So we draw a little sketch of a baby bunny, too.

We Talk About Mammals

We talk about rabbits being little mammals because they are born alive and drink milk from their mothers. We talk about other animals that are mammals. The children name some: kittens, dogs, pigs (we had seen the cords still attached to the newborn pigs when we had visited a farm), and chickens.

"Are chickens mammals?"

Some children say, "No." One says, "No, because they hatch from eggs and their mothers do not feed them milk."

"My baby brother drinks milk from my mother. Is he a mammal?"

"Yes, we are all mammals."

We look at pictures of newborn mice, of newly hatched crows and of human babies' development before birth. Then I held up one of the dead baby bunnies for all to see. We talk about how it grew inside of its mother for thirty-two days and how all of *them* grew inside of *their* mothers for 280 days. Then we look at the little newborn rabbit more closely.

"Can I hold it?"

"I want to hold one."

So we pass the dead bunny around for each one to hold and see and feel. We handle it carefully. It feels a bit cold but very soft and silky. It is pink, covered with a silky down that is barely visible. The whiskers, on the other hand, are plainly visible. We look at

the ear. The external ear is well developed but there is no opening to the internal ear. The eyes are tightly closed. The skin is grown together over the eye for the eyelid has not yet developed, but the eyeball is developed under the skin. There are tiny buds of beginning claws on the end of each toe. Two upper and two lower teeth—the incisors—are developed. These teeth are particularly large in all rodents. We look at the naval where the cord has been bitten off by the mother rabbit.

We talk about how we were mixed up on the sex of our rabbits. It is hard to tell males and females apart in young rabbits but not hard to tell in human babies which one is a boy and which is a girl. We talk about how the bunnies and human babies get their food before they are born. We take a deep breath and feel our chests expand as our lungs fill with air. We talk about how babies must cry or gasp to fill their lungs for the first time, just after they are born.

It is not difficult to hold the children's attention for all are interested in babies. Many of the children have babies at home and others are expecting little brothers or sisters soon. They talk freely without self-consciousness.

This afternoon, between showing the newborn bunnies to the older classes, I read to the children (who usually have reading or spelling) about human babies, how they develop and are born. When I said, "Now it is time to go back to your classroom," a child said, "But we've done no work."

I replied, "Today bunnies and babies were more important than reading and spelling."

What has been gained? The whole school has been united by thinking and talking naturally about development and birth.

Experience in Natural Science

The possibilities for nature study in the classroom are described by Mr. Shirling, department of natural sciences, National Training College for Christian Workers, Kansas City, Missouri. "The success of such study depends largely upon the inspirational guidance of teachers who know its value through their own personal contacts with nature and their experiences with scientific processes," concludes Mr. Shirling.

WE SEE THE THINGS WE KNOW. WE hear the sounds we understand. We are interested in things we have experienced. Subject matter in science that is merely talked about or seen only in pictures has little vital interest.

Science is tested knowledge—knowledge acquired through experience or experiment. The scientific attitude is to examine and verify rather than to accept blindly the untested opinions of others. Progress is made only through searching for truth. It is fortunate that so many people have had an inquiring mind. It is the spirit of inquiry that we wish to cultivate in children today.

The world offers so much in the way of appeal to child interest that seeing, hearing, knowing and enjoying nature through personal experience are almost crowded out. Our environment has changed; our social life has changed. Instead of woods we have indoor picture shows. Instead of listening to concerts given by birds in a treetop, insect musicians in the shrubs and frogs in the pools, we have radios rendering exciting adventures that permit no initiation nor participation by children.

Mrs. Grace Seton said, "Throw off your fetters for awhile, your prejudices; pry open your blind eyes; come with me to the woods. The road to the outdoors is open to all."

But is it so? Teachers in our schools

today cannot take the children to a Walden Pond nor to a seashore. We are fortunate, indeed, if there is a woods within a few miles from home. Mountains and national parks where wildlife abounds are too far away for most of us. The children have little opportunity for living the life of Whittier's barefoot boy.

Children love to explore but where can they explore in these days of city life? Are outdoor interests relics of the past merely to be dreamed of by old-timers? Have children lost interest in plants and animals because of the brilliant indoor enticements of artificiality? Or are they really, inherently, interested in nature and eagerly waiting for a teacher to lead them into paths of exploration and discovery in the vast realm of natural science?

The answers to these questions will be found in experimenting with children, in trying them out. Do not test them by telling or reading stories, by showing pictures and dried-up specimens but through living experiences.

We agree with L. H. Bailey that every boy and girl should have opportunities to wander along a stream, to fish and to catch a fish; to know crawdads by being pinched by one; to watch water striders go skating over the water; to grovel in the mud at the bottom of a pool; to dig out dragonfly

nymphs and look into their funny faces; to follow a woodland path; to hear birds sing and to see them in the act; to see a rabbit sitting in the weeds, camouflaged by his concealing colors; to see an opossum gathering persimmons on a moonlight night; to find a bee tree with honey in its cavity. The chief problem in schools today is how to get into the woods and fields where such contacts with nature can be made.

One of the most popular and fascinating of nature studies is birds. But even bird study is a rattling of dry bones if it is confined to books and bird skins. Moreover, bird study is difficult. Only a few people have the enthusiasm and persistence to watch a bird until it becomes an acquaintance, readily recognized by its markings, habits and song. Few people know enough about birds to be impatient to learn more or to get into the game of bird watching. Bird study becomes fascinating only to those who have had experience in taking a bird hunt, in making records of spring migrants, in taking a census of nesting birds or in listing the birds found in a certain area.

About the only birds city children see are English sparrows and pigeons (rock doves). Other birds may be seen and heard while picnicking in the parks but at such times there are so many other interests in the way of games, lunches and chatter that bird songs are not heard and flashes of color in the tree tops are unnoticed. Shall we continue bird study in our classes when children have so little real experience with birds?

Difficulties arise in the presentation of other outdoor life. Trees stay put and are available for study but they are usually trees that have been planted and pruned. They cannot take the place of

a tangled woods with underbrush and fallen logs where wild grape vines and smilax makes tepees over buckeye trees and giant oaks and elms have knot-holes inhabited by squirrels and owls. Flowers are available for study but not flowers that may be picked without reservation; not wild flowers in such profusion that they call forth exclamations of admiration.

From Wild to Mild Nature Study

Perhaps we are wrong in desiring or expecting the younger generation to see nature as it was in our own childhood days. We might well raise the question as to the real values of experiencing nature in its more primitive state. Just because we older folk roamed the woods and pastures with a muzzle-loading shotgun hunting rabbits or climbed hickory trees to shake down the nuts or went fishing for shiners in a brook and, with feet dangling over the bank, listened spell-bound to the inimitable song of a wood thrush overhead; went crawdadding along the farm ditches after spring rains and picked wild blackberries along rail fences does not imply that modern youth should do the same.

We would not have our children go back to the horse and buggy and kerosene lamp. Why expect them to be thrilled over tales of adventure with birds, bees, trees, turtles and snakes?

Personally, it is hard for me to change the emphasis from wild to mild nature study, to adjust my thinking to the realities that are available to modern school children. After having had the experience of spending days gathering maple sap and boiling it down in big iron kettles out in the woods; of spending hours along a stream where whirligig beetles gyrated and frogs held their

concerts and, in more recent years, having the thrills of hunting birds with binoculars and camera, it is hard to come down to the more prosaic items of boulevard trees, flower beds and English sparrows.

On the other hand, we are reminded that "Nature study will make *every* rod of ground like the pages of a book in which new and strange things may be read." This means that things of interest *do* occur in our city parks, backyards and along streets. The parsley worm shoots out its scent pockets to startle the one who teases it; cecropia cocoons may be picked from soft maple trees; nests of paper wasps may be bagged on a cold September morning and transferred to a cage in the classroom where the children can see marvelous things take place.

An observation beehive in the window of a schoolroom gives better opportunity for close study and scientific observation than does the hollow limb of a bee tree. Evening concerts of insect musicians may be heard in autumn from most any vacant lot and garden. Moreover, butterflies and bumblebees visit zinnias as well as thistles and the fascinating adaptations for pollination are as strange as are the elusive habits of a raccoon at night. To solve the mysteries of a snapdragon flower is as worthwhile as to follow the maze of a rabbit's tracks in the snow. From rubbish piles we may uncover bombardier beetles with their loaded gas guns; we may watch English sparrows to see what birds do, and they do many things.

The amazing phenomena of resurrection after seeming death in dormancy can be visualized in opening buds, in growing bulbs and in sprouting seeds in the schoolroom. It is possible for the teacher to cut selected

twigs from elm and buckeye to bring them into the schoolroom for the children to examine the different scars and buds and through skillful questioning enable them to become soothsayers, able to read the present, past and future of a twig in winter. Careful tabulation of the events in the life history of a bean plant recorded from the time of planting the seed to the growth of a full-sized bean pod grown in a flower pot is as revealing from a science standpoint as are acres of corn and fields of clover.

Possibilities Within the Classroom

By giving some thought to the matter one may find many ways of directing real, purposeful nature study in the classroom. Making a miniature garden, including a pool, calls for many activities and exercise of judgment and skill. It requires hunting and collecting specimens, construction work, planting and caring for plants and watching them grow. If the *children* instead of the teacher do the work under proper guidance the project brings its reward of justifiable pride in achievement.

Recently I observed nine-year-olds engaged in science study. These boys and girls were explorers and discoverers. Their explorations led them in two directions—to the school garden across the street and to books. Each day the observations that critical classmates considered worth while were recorded in a diary.

On this particular day Joe led the group in its discussions. He had the attitude of a true scientific investigator. When Helen reported seeing a bird in the lilac bush, Joe recommended that she find out what kind of bird it was before recording the item in the diary. When Sam told of finding a lot of holes in the ground in his back yard, Joe suggested that he watch to see whether

anything came out of or went into the holes. Philip reported "Winter is coming for grasshoppers are dying." This item was considered worth recording since it was based on observations made during one of their recent walks when they had found dead grasshoppers clinging to weed stalks and had supplemented their observation with explanations found in books. One of the girls reported seeing a long string of ants traveling over the ground. This statement suggested further study. They would find out about ants.

The children had caught the very elusive, concealingly colored tree crickets and had put them into a small cage for observation. They had also caught black crickets and had put them into a jar partly filled with soil and sod. Questions asked were not answered by the teacher but by the children's observation of the insects. The more the children learned the more interested they became, and interest led to further observation and reading.

Another group of children was interested in living things in the classroom. For study and observation there were aquaria containing different forms of aquatic life. There were cages with a variety of inhabitants. There were dish gardens and other miniature gardens. Pools were made by first making a form out of wire mesh, commonly called hardware cloth, then mixing cement and sand in proper proportions and plastering over the wire—reinforced concrete. There were window boxes of flowers, hanging baskets of sprouting tubers, sweet potato vines and carrot tops and dishes with seedlings in various stages of growth. There were cuttings of herbaceous plants rooting in moist sand and in glasses of water. A

number of potted plants were in bloom.

The climax of one discussion by this group was reached when Ikey with clean face and freshly laundered ragged shirt stepped proudly to the front of the room and held forth a bean plant growing in a pot. The plant had a sturdy stock, green leaves, two flowers and a bean pod two inches long. With beaming enthusiasm Ikey told the story of his bean plant, giving details of its life history as recorded from the time of planting the seed to its present stage of perfection. What a vast amount of *experience* he had achieved! *What inspiration through experience!*

In another school I watched with interest the enthusiastic responses of children studying experimentally with earthworms as subjects. Dry earth and damp earth were piled side by side in a tray and the earthworms were placed between the two piles to see which way they would crawl. Later the worms were spread on damp paper and their reactions noted when a splinter of wood dipped in ammonia was brought near their anterior ends. Vinegar was also used. Reactions to these repellents were checked by using another splinter dipped in water.

After seeing such child activities directed by real teachers who have in themselves the "spirit which maketh alive," I am convinced that nature study *does* have a place in children's lives that picture shows, automobiles, radios and house parties must not crowd out. The success of such study depends largely upon the inspirational guidance of teachers who know its values through their own personal contacts with nature and experiences with scientific processes.

By MABEL R. HEARNE

Nine-Year-Olds Experience Science and Healthful Living

Mrs. Hearne, teacher of nine-and-ten-year-old children in Delmar, Delaware, describes the kinds of science and health experiences her pupils enjoyed and how they developed in their daily living at school.

NINE- AND TEN-YEAR OLD CHILDREN interested in their environment and stimulated to solve problems about it have brought many things to our classroom this year. They have arranged nature shelves for specimens and a table for an aquarium and a vivarium.

Our first major "scientific" interest was in animals. The children had examined science books in the classroom library and had expressed a desire to make such a study. We began by reading about animals of long ago and seeing a movie entitled *The Lost World*. We read, discussed and made pictures. Then we studied other animals, dividing them into groups—those helpful to man and those that are destructive. We saw motion pictures of the zoo animals, reptiles, beavers, ants, bees and the balance of nature.

We discussed at length the differences between persons in our room—physical differences and differences in abilities. Some of us sing or play better; some spell or do arithmetic easily; others excel in reading, art or English. The discussions led to observations of the different kinds of animals, the variety of ways they move about; the homes they live in; their ways of food getting, breathing, protecting themselves and ways in which they grow. Some animals are solitary and some are social. Some are cold-blooded, some warm-

blooded. We went to the science laboratory to see under the microscope a drop of human blood (warm-blooded) and frog's blood (cold-blooded).

Jimmie went to Sharptown for the weekend. When he returned to school on Monday he brought two small minnows. They presented real problems. What kind of a home must we provide for them? What shall we feed them?

These problems led to a study of the balance in nature. Since it was winter time Jimmy could not bring plants from the stream and we could not find snails in outside pools. The class voted to buy both with club funds. As we searched a catalog, we became enthusiastic about other animals, too. We figured costs and decided to buy snails, a tadpole and a red-bellied salamander.

The fish were placed in a glass battery jar and kept alive with fish food until the other materials arrived. In the meantime sand was cleaned and put in two other battery jars. We read for more information. When all the materials arrived, we attempted to "balance" both aquaria. The tadpole, salamander, a snail, and some plants were put in another tank where the water was shallow and the animals could crawl out of the water onto the rocks.

One day a friend brought a large snail. A few days later we had baby snails. The eggs on the side of the aqua-

rium led to questions about reproduction—questions answered honestly and satisfactorily for the children.

Changes in the aquaria were noted, considered and acted upon. The tadpole became a frog and was moved into the vivarium. (We had taken a walk earlier and had brought back moss and plants for the vivarium.) The frog disappeared but the boys supplied others. The salamander escaped from the tank and was found dead on the floor. Turtles were brought in.

These activities raised problems. What will the frog eat? Why did the salamander leave the tank? What sort of home shall we provide for the turtles? What shall we feed them? Answers were found by reading from books, especially *An Aquarium Book for Boys and Girls*. Through these readings the children added to their concepts of interdependence and interrelationships.

Magnets, iron filings, pieces of metal, a compass and other physical science materials were experimented with. What the magnets would or would not pick up and what the force of magnetism would go through led to discussions about gravity, then energy. Dry cell batteries, bulbs, wires and electromagnets and such things came to school. Experiments were tried and demonstrated. Thus the children learned, among other things, what conductors and insulators are. Discussions and readings about electricity led to some conclusions which helped to abolish certain fears and provided lessons on safety.

We took excursions into the community to see and learn about some of the ways in which electricity serves us through the telegraph, the printing press, the town water pumps, and the electric motor at the ice plant. Chil-

dren who had never used a telephone were given that opportunity after careful planning. Excellent motion pictures were brought in and shown.

Rural electrification entered the discussions. It has recently brought refrigeration, running water and many other modern conveniences to the farmer and his family in our community.

Some of the boys became interested in *Experiment Book* by Wyler and Hughes. In came milk bottles, boiled eggs, candles and containers. Of course we performed experiments and drew conclusions about air which led to discussions, other experiments and more reading.

We made a magnifying glass by filling a round glass jar with water. Thus the children learned that a magnifying glass is curved and that is one reason why it makes things look bigger. We used a hand lens, binoculars and microscopes to study soils, birds and plant and animal life.

Signs of Spring and the Changing Seasons

There is a globe suspended from the ceiling of our classroom. Since it is the only one in the building in that position, the pupils were very much interested in it from the time they entered the fourth grade. Many were the questions they asked: Where do we live? What is this for? What is that for? What time is it in China now? In England? In Germany?

We discussed the lengths of the days and nights at various times during the year. Why do they vary? The auditorium stage, with curtains drawn, provided a satisfactory setting for experiments with a globe and lights thereby demonstrating the cause of day and night. The experiments were conducted in such a way that the children

were challenged to think and give answers rather than to have the answers provided by the teacher. Does the earth turn *this* way or *this* way? (Clockwise or counter-clockwise?) How do you know? These and other questions were considered, using the evidences of the demonstration. We checked conclusions by relating them to observations.

One group became especially interested in the sun, stars, planets and the moon. So, we went back to our stage classroom and used candles to represent stars with relation to the earth and sun. Thus the children added to their concept of space. They read about stars and planets. These studies of the earth and sky raised problems about directions. Hence we pointed to and named directions out of doors, in the school-room and on maps.

Before winter was over several pupils reported having seen robins. Early, a crocus came to school. Other spring flowers followed and signs of spring were noted—swelling buds, open cocoons, wild geese going north. "My calendar says that March 21st is the first day of spring," remarked several pupils. Discussions led to reading. Both led to very definite plans for an excursion. On the way to the woods we saw some beautiful wild flowers—veritable flower gardens. Discussions following the trip included reports on plants and animals seen: dandelions, bluets, mosses, robins, pigeons, ants, a frog, a rabbit and a lizard. Spring was evidenced by returning life.

"What causes spring to follow winter?" was asked. Experiments with a globe and a light on our darkened stage helped to solve this problem and to demonstrate the cause of other seasons in our part of the world. The conclu-

sions were drawn from the children instead of told to them.

What time of year is it when the earth is in this position? Are the days longer where we live when the earth is here or there? (With relation to the sun.) We measured the length of darkness and daylight on the globe in our part of the world with the globe in the four positions of the seasons. These and other experiments helped the children to relate the length of days and nights to the seasons and to have a better understanding of and appreciation for the change of seasons.

Birds have been noted and their calls imitated. Posters and pictures of birds have been studied. Most of the children have joined the Junior Audubon Bird Club. A few have subscribed to the *Natural History Magazine*.

Our Victory Club needed funds so the class sold vegetable and flower seeds. Meaningful arithmetic came out of this activity, and many arithmetic problems were solved.

An interest in seeds led to an interest in testing the growth of seeds. One boy prepared boxes of soil in the school-room and sowed tomato seeds for transplanting later. Corn and beans were planted to study their growth. Many of the children either have gardens of their own or help their parents in their gardens. We studied soils and observed what earthworms do for soil.

Some of us who were especially interested in flowers read about fertilization. We took some pollen to the high school science laboratory to see it under a microscope. The science teacher showed us a bee's leg, too, so that we could understand how a bee carries pollen from one flower to another.

Sometimes we have read and discussed in one large group. At other

times we have formed small groups and worked according to our interests—birds, flowers, trees, gardens, tadpoles and frogs. During these periods we have studied illustrative materials, experimented, observed, read or made pictures. During some periods slides were made for the lantern (projector) and thrown on a screen. Others were made into block prints and used on wall hangings for the room. The teacher joined group after group during these periods.

Nutrition and Health

Since our chief concern is the making of good American citizens rather than scientists, we have spent time in learning how to be healthier. We have studied proper diets and how to choose good lunches. Why should we drink milk? What does milk contain that we need? Why should we eat fruits and vegetables? Why should we have a substantial food? Knowing the reasons helped each child to choose food intelligently.

Since desserts are tempting, we had three ice cream parties during the year. The parents cooperated with cream, crackers and cakes.

Then, too, there was a very wholesome attitude toward the mid-afternoon free milk lunches. It was seldom that a child did not drink one or several glasses of milk. The children assumed responsibilities in the school milk lunch program; pouring the milk; washing bottles, tables, and glasses; putting glasses and bottles away in proper places.

Another health problem has been *cooperation* in dental health. Our supervising principal and dental hygienist have worked for one hundred per cent participation and correction in the first five grades. This has meant

class discussions and study. Even though the problem was initiated by the school, the children were interested because each individual was directly affected.

The dental hygienist examined each mouth and made recommendations. Cards and letters with attached slips to sign were sent to the parents. For those who desired, transportation to the dentist was provided by the Red Cross.

We visited homes to talk over the problem with some parents. During school hours we demonstrated proper brushing of teeth and read about gums and tooth structure. The discussions and readings seemed vital and meaningful to the children because their visits and those of their classmates to the dentists, together with the cooperation of their parents, made them so.

Naturally we have had our troubles but there has been growth in numerous ways. Surely this experience is one step toward better citizenship: growth through study, participation, and cooperation with others—dental hygienist, principal and teachers, pupils, parents, dentists, parent-teacher association, the Red Cross. The trips to the dentist in the station wagon with the Red Cross drivers have been incentives for discussion and study.

Another health activity has seemed to be valuable. In connection with the physical education program, the pupils bring play clothes and towels to school. The project has raised many problems which have called for much planning, discussion, study, checking, and evaluation—the use of showers, foot bath, lockers; care of clothes and towels. The physical education and classroom teachers went into the shower rooms with both boys and girls to assign lockers and to give instructions for

turning showers on and off. Many pupils do not have running water in their homes. The teacher also went with the girls when they took their showers and showed them how to care for their clothes and bodies properly.

In Conclusion

I have tried to teach health and science democratically. Science cannot be taught as a separate subject any more than can history or geography. The work of a class should be organized around areas of learning which may include any subjects that meet the needs of the group, be they science, geography, history, health, English, writing or spelling.

Some of our experiments were short in duration; others long. For example, we left water in a bottle on the window sill to study evaporation. This was a short experiment. Others extended over a longer period and were discussed at intervals during the year, for instance, seasonal changes. Sometimes, as in the study of spring, we had several problems under consideration at one time because with the experience background of the pupils it could be done.

The pupils built up some concepts through their studies: (1) space (sun, stars, planets); (2) time (prehistoric animals, fossils); (3) change (change of season); (4) adaptation (beaver and other animals, plants); (5) interrelationships (the balance of nature).

During our studies, the pupils participated in planning. They presented problems they wanted solved, helped to select methods by which they might solve them and participated in planning to carry out the methods. They evaluated the planning as to its success, drew conclusions and gave suggestions for improvement. Their experiences were organized around problems that have social value and are worthwhile as well as challenging to children.

Before planning the year's work with our pupils, we may do well to evaluate our ways of teaching. Are they democratic or autocratic? Is my work with the children resulting in their growth rather than in the mere learning of facts? Of course there is no growth without attention to subject matter but the children must feel a need for it if there is to be real learning and education for citizenship in a democracy.

Haircut

By LEAH AIN GLOBE

Snippety snip,
Teasy, tickly,
Nippety nip,
Ow! That's prickly!

M-m-m an itch
Comes and goes
Must be a hair
At the tip of my nose.

I don't move,
I don't dare—

My head feels
Like it isn't there!

One, two, cut!
One, two, crop!
Sweepings for
The barber shop!

Swish and trim!
Brush and comb!
Ready to wear
My haircut home.

Crosses and Knives

Author's Note: After the publication of "Crosses and Knives" in the May 1946 issue of CHILDHOOD EDUCATION, the director of a community center on the West Coast wrote me asking if "there is any more to your story. I have a similar problem—finding recreational outlets for delinquent Mexican girls of the adolescent age. I feel that there is much more that we could be doing for them if we only knew what to do." The interest expressed in this and similar letters has brought about a second chapter which continues from the point at which the girls in my school had come strongly to my side after months of antagonism.

Mrs. Gillies is a teacher in the Evanston, Illinois, schools where she continues her creative work with children.

FEELINGS WERE AT LAST RELEASED.

The girls were with me. I knew it. It had been four months since the beginning of the school term. It had taken that long to feel the bond strengthening between us to the point where I could surely say "We are friends." I was exhausted trying to teach dramatics creatively to a group of adolescent girls whose pachuco mob pressures were completely against having them express any of their own ideas or develop any degree of individual leadership. Teaching them had been heartbreaking for weeks on end. But at last I could feel that we were all ready to move forward together.

Things were right from the moment the girls felt that I would not censure them, "For," as I told them, "I do a great many things wrong too. No one can very well tell whole groups of people how to live. It's hard enough to tell *yourself*." It had taken so long to build through to a trade of confidence between us that I vowed I'd do everything to keep it.

One day I came into class late. I paused at the door and took a kind of temperature of the whole class. Normal. They were chatting very freely about

their boys friends and what they had done the night before. They didn't stop talking when I entered the room. They didn't freeze themselves into the agreed and presentable silence put on when they distrusted or disliked anyone. I smiled a "hello" at them and couldn't help letting my enjoyment of their new-formed friendliness spread over my whole face.

"You look happy, Miss," chirped Concha.

"I am!" I replied with feeling.

"Oh?" A questioning silence from the group. "Que?" And then all at once from three or four, "Oh, your *boy fren*! Did you see him last night, Miss?"

"Did you? Did you?" chorused others.

They were around my desk now, eager to talk and close enough to have friendly arms put around them. There was the forbidden at last made available to me. They would now let me touch them without the old fear held toward teachers—the fear of being struck.

I stretched out a welcoming hand to Lupe and encircled Socorro with my other arm. Several girls hung over the back of my chair and others piled onto

the desk tops at the front of the room to have a close view and a chance to talk, too.

"Tell us, tell us, Miss," they clamored.

"It isn't a boy friend who is making me happy today." There was a disappointed silence among the girls. I paused with a proud knowledge of how to point a line dramatically. "It isn't a boy friend—it's *you*. As a matter of fact, I've been so proud of the work you've done that I want other people to see it and enjoy it, too."

They were stupefied by my statement. Really have anyone else from the outside see their work? Before anyone could object, I went on bravely. "What a shame it would be if all the fine work of these months were seen only by me."

"Who would come?" Dora asked suspiciously.

"Oh, I hadn't thought." I tried to appear casual.

"Just not my teacher," said Lucy. "Oh, Miss, I'd be so ashamed."¹ And the rest of them concluded, *not* their teachers.

"Well, what about a friend of mine?" I questioned, thinking of a particularly friendly person I knew who was interested in children and on whom I could count for not laughing, not making them feel uncomfortable or inadequate in any way. She would be glad to give up her household duties for a morning, I knew, to see the girls in dramatics class.

And so it was arranged. She came. She approved, both by the warm radiance of her personality felt in the room without words and later audibly as she thanked the girls for inviting her.

After the advent of the one visitor,

¹ *Author's Note:* This is an exact quotation. "Ashamed" is one of the words used most commonly by these children to indicate their feelings of embarrassment.

fifteen pairs of black eyes took on a new luster. The beet-colored lips no longer curled insultingly when I spoke of visitors. It was finally a very brave day a short time later when Lupe announced that she had told all the girls at the shoe factory where she worked after school about acting in front of a lady friend of mine. Now, she said, she was no longer afraid to act in front of *anybody*. That seemed to be the last factor to compel them toward positive action. Now the whole group was ready for a real audience.

I made certain to select girls a bit younger for the first audience of twelve or fifteen spectators, to insure enthusiastic praise from the lips of girls less skilled. Younger children would not be as critical as would the girls' contemporaries. Success was in the air now. Luck had turned.

After the performance the younger twelve- and thirteen-year-olds were talking throughout the school about what they had seen—a somewhat sketchy Mexican version of the old folk tale *The Stone in the Road*. The girls were ready for their final test—would they dare to play in front of their contemporaries whose criticism they feared more than anything? Above all, they were uncertain of the reaction of their teacher in front of whom they were "ashamed" to make a mistake.

But confidences were now built to the point where they would try almost anything. So *together* we tried. "For," I told them, "if things don't go well it's just as much my fault as yours. Remember that people are going to judge *me*, not you. They're going to say that that teacher isn't a good one if she can't help her girls do something which will help us all have a good time—something of which we'll all feel proud."

We did get through that performance, and then another, because the reaction was so enthusiastic. And then the third time, oh great day! The principal was invited now that success was assured. Here was a truly proud moment. Under the stimulation of top performance and triple effort, the creative spark shone brilliantly. Peasant-thinking-and-moving Dora sparkled for the first time as she came to me eagerly with, "Did you know what I said, Miss? *Si mon?* Did you hear me say out loud, 'I can't move the stone' instead of just looking and saying nothing the way I did before?"

I told Dora that I had surely heard, how I had felt all the way deep inside because of hearing her play creatively—thinking on the spot instead of copying what someone else had once said or refusing to talk, inarticulate with the old paralysis which inevitably sets in when a child fears being made stupid in the eyes of others.

The Interest Spreads

The result of all these months of work, could I put words to it now? Dramatic impetus began to grow throughout the school. The largest and most difficult group of boys in the building—the fifteen- and sixteen-year-olds—wanted to "make a play, Miss, make a play," and turned out an astonishing production of *Little Black Sambo*, played complete with their own gayly made papier mache masks for the tigers and for the monkey characters added later. The best was none too good in that production. Ideas had expanded grandly by now. We must have scenery too—live banana plants, obligingly ripped up from some nearby park in the dark of the moon, I heard later in silent horror. The boys gave

their performance for the sixes and sevens and became heroes overnight.

Almost any excuse now to give a play was invented by groups all over the building. I was on call for any room needing me. We would work on a project until it reached what we thought was performance level. We would experiment with all types of media: rhythms, inventing our own dances and songs; creative writing, sometimes making up our own stories before we played them; puppets and shadows; creative art, especially finger painting and clay modeling which gave a broad scope for release. If results did not come easily while the child struggled in dramatics, I encouraged him to speak Spanish even though I did not understand it. His use of his native speech removed the language blockade and brought free-flowing results of vital color.

Throughout the school I began to notice the same reaction—the building of a receptive attitude, not only toward the subject of dramatics but toward academic work in general. The classroom teachers were then relieved of their own classes for certain periods in the day and were encouraged by the far-seeing principal to watch the dramatics classes. Later some teachers experimented with their own groups after they had observed creative techniques.

"I can't get over it!" one teacher exclaimed. "For the first time, Lupe, Concha and Ortensia aren't resentful of the suggestions I've tried to give them about their physical appearance—you know, those layers of lipstick they smear on and the way they use ten-cent store perfume to cover up what they don't want me to guess, that they haven't taken baths regularly. Why, they're *proud* of their appear-

ance, not even sullen any more when I give them suggestions!"

I smiled, amazed myself that a few words about how an actress must keep herself well groomed had not gone in vain. At long last the emotional blinders were gone from this group which had so hated and resisted outside help.

In Retrospect

Finally it was the end of the year and time for me to return to my former teaching job in the Middle West. Leaving the children, I knew suddenly, was like having a vital organ never before used come into function, only to be cut off again. I waited until almost the very last day to tell them, for I knew that something had happened not only to the children but to me in this meaningful time we had spent together.

It was during recess that I told them. The children, confused, gathered slowly around me on the playground. "You do not like the school here, Miss?" they puzzled aloud. And then from a few, with the confusion mounting into a defiant fear, "We were not nice children? We were not good?"

"No, no. It isn't that at all," I tried to explain hastily. Eight-year-old Ramon looked confidently up into my face, inspired with the sudden knowledge of how to show his teacher his highest mark of trust. "Stay, Miss. I like you," he murmured softly. "I steal for you."

When children lay bare themselves to you in that way, it is hard even to answer. "It isn't that you aren't nice children, that you aren't good children," I said. "You are some of the finest people and some of the best friends I've ever known. But I have to go back to the first boys and girls I taught. They just loaned me to you for awhile to come out here and bring you some new ideas."

I looked at Concha and Lily, arms around each other listening to me. I remembered how I could count on them now for always, and how it had been just the opposite those first few months. I saw Ramon, biting his nails to keep from crying. And Roberto, Angel, and Esperidion who had played Sambo's three tigers, frozen in space in their football game as they listened and watched with eyes which seemed to be photographing the scene permanently.

"You are different from any boys and girls I've ever known," I finished, "and that difference can be one of the finest things about you. I'll never forget you."

Those children have traveled with me ever since. I have never seemed to be able nor have I ever wanted to lose them. I crossed the mountains and the plains and felt a drop inside me. I thought those children were being left two thousand miles behind, but my arrival home was heralded by a packet of letters:

Dear Emily, (the top one started off boldly, calling me by my first name now that I had left the school). How are you? Did you have a nice trip over there? Gee, I sure hope you got their in one peace.

I chuckled over the spelling and then I realized fully what Ortensia was saying. I did come home in *one peace*, in a centered emotional state of well-being rarely experienced. Surprising to myself was what had happened to *me* in the process of teaching those delinquent Mexican children.

I held Ortensia's letter in my hand and read over the words with my mind idling back to the very beginning when I had gone to that Mexican school to experiment along with the school authorities. We had wanted to uncover creative techniques for releasing hostilities, fears, and countless other bother-

some feelings. We had wanted to make a school full of emotionally locked up Mexican children into a school full of boys and girls who were more comfortable with themselves and with the world about them.

My mind took me back to the seeming hopelessness of the first two or three months when literally nothing happened in the classroom, when I could not get one child to speak. It went back to a searing period with them when they began to test me with their swift-spoken, zoot-suit dialect, traded between lips barely moving but formulating speech loudly enough for their fellow pachucos to join in with uproarious laughter. It went back to the same period when long nights awake were filled with deep feelings of inferiority on my part, wondering if I could ever win the children's respect, if I could ever cope with them, if I could ever throw back the protective wool of silence and of insolence drawn closely to themselves.

I thought about long days during the gray winter months when inside I began to feel the same color as the days outside, when energy seemed to have washed itself out of me completely, leaving me drained and sick, only able to drag home to bed. Throughout this long gray period one feeling predominated — a determination somehow to make a success of this project in which I had had such faith, to make creative experiences grow from a school full of children who *must* be able to give, once the secret locks inside had been sprung. Was I able to do this? I didn't know. Would I try it once again? I would with each succeeding day until it seemed as though New Year's dawned every morning, with the amount of resolution making I was doing.

The lowest of the low periods would come and I would once more turn to two books which brought determination anew: Hughes Mearns' *Creative Power*² and Natalie Cole's *The Arts in the Classroom*.³ These books tell the story of brave, creative people who set out to do what seemed impossible and who drew not only beauty and meaning from their classes but who seemed to create inside themselves a well of power, a new source for the vital life they went on to live. It seemed to be inevitable during this period to feel sorry for myself, too, and as one friend encouraged me, "Go ahead. Get *completely* immersed in feeling sorry for yourself so that you can get it out of your system." I stewed around in my own self-pity until I was so thoroughly saturated that I had nothing left to feel sorry about.

The months which have passed since that experience on the West Coast have brought solid conclusions, one upon the other. By going ahead and carrying through on a creative project which seemed hopeless at times, I have learned four things of lasting value to me:

I am certain that there are untapped sources of creative energy in every single human being, even if that energy is used only to be a person's best self. Most often the results of releasing that energy are most startling or most stirringly beautiful *when the releaser does not preformulate the result he expects to achieve*. Holding no other standard than the fact that each child produces only the very best of which he is capable seems to bring real creative results.

I learned that many, many persons in widely varied fields are with us who as teachers are feeling for creative results. Their efforts can be of real inspiration and of deep encouragement to us all. A beloved physician from the Mayo Clinic wrote me:

"As you say at the end (of your article, 'Crosses and Knives') one must listen and listen,

² New York: Doubleday, Doran and Company, 1929.

³ New York: John Day Company, 1940.

and you might have added, never condemn. One must have infinite tolerance and sympathy if one is to understand people. Day after day I do this sort of thing in the office. I listen to remarkable tales of suffering and human weakness and perhaps I get them to some extent because I have no feelings of criticism or religious faultfinding. Sometimes I suspect that if I had been put in a similar position I would have done worse."⁴

Doctors, social workers, ministers—anyone and everyone who cares about human problems and who listens to others' stories has found this same truth. The more we can give to each other the results of our efforts in the broadening field of mental hygiene, the more quickly we shall all grow in our understanding of how human emotions react and interact.

A common question asked of this whole project was phrased in many different ways, but perhaps most concisely in a letter from a lay student of psychology:

"I wonder what permanent effect it (your work) has had; how long the released feelings remain free and how much happier has been the adjustment to life?"⁵

⁴ Dr. Walter C. Alvarez, department of gastro-enterology, Mayo Clinic, Rochester, Minnesota.

⁵ Lewis Bernays, British Consul-General, Dallas, Texas.

It might be discouraging to some to try to give the only answer which must be true. It seems to me that we have only one guarantee that our releasing work has been worth while and that it will carry effectively into the future lives of children. *Our guarantee lies only in how much we (the teacher, doctor or friend) truly have made the person care.* The child whom we have barely stimulated can only temporarily be freed from the prejudices and misunderstandings which have made him belligerent toward the world, and vice versa. If even a measure of comfort and happiness has been felt through such release, that is all we can hope for. Perhaps sometime in the future the memory of the enchanted feeling of release will come back strongly enough to kindle a new hopeful flame in the child.

Last and most important of all, I learned that something happens to the adult who has brought about the release of feelings in another person. His whole adjustment to life has been affected. He has somehow become a creator himself in the process. He has become a person who, through his experience, has brought something of insight to himself and a sure knowledge that he has justified the trust set in him.

Observation in the Library

By JEAN LOLLICH

I glanced quickly
At the boy
Curled up beside me
In one of the library's easy chairs.
He was reading
Osa Johnson's *I Married Adventure*.
M-mm . . . an adult book.
He was only about twelve
And looked to be the typical Boy Scout.
As I sat down
He gave me a twinkly smile
And said, "These chairs are really comfortable."
"Yes." I soon agreed, "they are."
Then he read

And I read, but
Filled with a burning desire
To hear of his pre-planned tours
As a future explorer,
I asked, "Are you going to sail
the seven seas some day?"
"Oh, no," he answered.
"No?"
"No. I'm going to be a cook.
"I love to cook—cakes, pies, biscuits, bread.
"I want to be a cook and run a restaurant."
Still aflood with all his dreams
He turned back to his book,
And I did too—subdued.

Plans for Next Year's Issues

A NUMBER OF SOURCES was tapped for suggestions concerning the contents of next year's issues of CHILDHOOD EDUCATION: letters from teachers received through A.C.E. Information Service, correspondence to the Editorial Board, suggestions made by members of the Editorial Board, conferences with many people—visitors to A.C.E. office in Washington, teachers in their classrooms and at professional meetings, and members of lay groups interested in childhood education. The following outline of content attempts to synthesize all the suggestions received and is shared with the readers of CHILDHOOD EDUCATION for their criticisms and suggestions:

September: Education in American Democracy—how some present practices came to be and the extent to which they contribute to the education of democratic citizens.

October: Teachers as Leaders—how teacher leadership may be developed and areas in which it is most needed.

November: Community Associates and Activities—who are the associates of children who meet their needs and form their lives?

December: Time to Teach—the meaning of time in the total educational process. Times that try teachers' souls and what to do about them.

January: Class Size, Grouping and Promotion Practices—in terms of child development needs and administrative possibilities.

February: School Marks and Evaluation of Achievement—can human growth be measured? What do we mean by success?

March: Remedial Instruction and Readiness for Learning—with the emphasis upon best first teaching and a critical evaluation of remedial methods.

April: Materials of Instruction and Equipment—should these be considered per se or in connection with processes and content?

May: Assignment—Education—with the emphasis upon its international aspects.

The Editorial Board will welcome criticisms of this outline and suggestions for its improvement and development.

Looking After the Children's Health

NEAR HIS SIXTH month birthday every child whose birth is registered in Montgomery County, Maryland, receives from the County Health Department a postcard with the following message:

Across the

"Dear Little Baby: Six months old! Congratulations! Please remind your mother and father that now is the time to take you to your doctor for inoculations to protect against diphtheria and whooping cough and for vaccination against smallpox. Your mother can ask your doctor about these or telephone the public health nurse. With best wishes for a happy, healthy childhood. Montgomery County Health Department."

We think this is a good idea and know of a number of mothers in Montgomery County who act upon this advice. Perhaps if other counties sent reminders and provided clinics through which health services might be given, the health of America's children would be improved more rapidly.

Outstanding Educational Events of 1946

IN A MONTH-BY-MONTH review of more than eighty outstanding educational events during

1946, the *Schoolman's Almanac* selects the following ten as the most important:

1. President Truman signed an act creating a permanent school lunch program. (June) At the time this issue goes to press, this program is in jeopardy because of action to block the necessary appropriations for 1947.

2. The United States became a member of UNESCO. (July)

3. Senator Murray of Montana introduced the Education Development Act of 1947. (July) (The Association for Childhood Education is supporting S.472, and not this Act.)

4. World organization for the teaching profession was created at Endicott, New York, by representatives of thirty countries. (August)

5. The U. S. National Commission for the UNESCO met in Washington and adopted a list of recommendations for UNESCO. (September) Maycie Southall, president of A.C.E., is a member of the executive committee of this commission.

6. College enrollments reached a record-breaking figure of two million students. (October) Very few of these students expect to become teachers.

7. The National Council of Teachers of English announced formation of a curriculum commission to make a three-year study with a view

the

Editor's Desk

toward revision of the nation's school program in English. (November)

8. California approved a measure providing for a minimum teacher salary of \$2,400, state aid to kindergartens, and state support of education on a basis of \$120 per year per pupil. (November)

9. UNESCO concluded its first general conference in Paris, approving a budget of \$6,950,000 for 1947 activities and electing Julian Huxley director-general for a two-year term. (December)

10. Teacher strikes flared as a major issue in several sections of the country. (December)

Two events in 1947 deserve mention now: (1) the introduction of S.472—federal aid to education—by Robert Taft for himself and seven other senators, four of whom are Democrats and four are Republicans; and (2) the series of twelve articles on the state of education in America by Benjamin Fine, education editor of *The New York Times*, which appeared in February issues of that newspaper.

Some Publications of Interest

THAT EDUCATIONAL recordings are coming into their own is indicated by the mimeographed catalogue of titles recently issued by Ohio State University, Columbus, called *Educational Recordings*. The recordings are intended solely for use with adult groups. They will meet the needs of teachers in service, college classes for prospective teachers, parent teacher groups and adult study groups interested in education. The titles include: Adjustment Problems of the Elementary School Child, Arithmetic, Environment, Functional Learning, Mental Health, Preschool and Kindergarten Years, Reading, Records and Reports and Contributions to Elementary Education. These recordings and the suggestions for their use have been prepared as a resource for use in promoting and guiding discussion of various significant problems of education and child development.

For a fuller description of the recordings write for the catalogue to Project 4550, Educational Recordings, Room 117, Arns Hall, Ohio State University, Columbus 10, Ohio.

Spotlight on Gary, a thirty-two page booklet, is a tribute to Gary, Indiana, for its efforts

to make democracy a living experience for all of its people. "Did you ever see a dream growing?" is the lead question into beautiful prose and poetry, fused into a convincing, informative story of race fears and how they are being overcome in one American city. Copies of *Spotlight on Gary* may be obtained for fifty cents each from the National Urban League, 1133 Broadway, Room 826, New York 10, N. Y. The League is an interracial social service agency seeking equal opportunities for Negroes.

A unique approach to types of reading implied by a broad concept of the reading process characterizes the two hundred pages of the *Eleventh Yearbook of the Claremont College Reading Conference*. William S. Gray says in the preface "The point of view which the Claremont Reading Conference promotes is not only comprehensive with respect to the variety of situations included in reading, but also with respect to the range of mental processes and reactions that accompany the reading act." The various divisions of the Yearbook are titled aural reading, visual reading, tactile or touch reading, primary reading, social reading, physiological factors affecting the reading process and curricular problems in reading. Copies of the Yearbook may be obtained from the Library, Harper Hall, Claremont, California, for \$2.50.

Personal Notes and Apologies

BETSY WILLIAMS WHO contributed "Why Teachers Teach as They Do" (September 1946)

is now the educational director of the Day Nursery Association, Indianapolis, Indiana. We neglected to give her present title and position.

Dorothea J. Beers, author of "What About the Inbetweeners," (October 1946) teaches in the public schools of Ridgewood, New Jersey, rather than in the Paterson public schools, as given in the editorial note about her.

David Donoho contributed the two largest photographs illustrating Lucile Ellison's article, "We Like To Do Things," (February 1947). We neglected to give Mr. Donoho credit for the photographs.

Copies of the booklet *Starting to School* about which editorial comment was made in the February 1947 issue, page 291, may be obtained from the director of elementary education, School Administration Building, 127 North Tenth Street, Richmond, Indiana, for twenty-five cents a copy, rather than from the superintendent of schools as given in the comment.

Books FOR TEACHERS . . .

CHILDREN OF THE CUMBERLAND. By *Claudia Lewis*. New York: Columbia University Press, Pp. 217. \$2.75.

Children of the Cumberland is a study of environmental factors which influence the thought and action of young children. It grew out of the author's careful analysis of problems in her teaching experiences at the Summerville Nursery School in the Cumberland Mountains of Tennessee and at the Harriet Johnson Nursery School in Greenwich Village, New York City.

The introduction presents specific questions concerning the connection between aggressiveness and creativeness, energy and imaginative insight, submissiveness to outward controls and apparent loss of conflicts, uninteresting performances and inactivity. The introduction is followed by a description of the Harriet Johnson Nursery School, personified through conversations and reactions of vibrant "Stephens" and "Davids." The story of the Cumberland Plateau people unfolds through the vivid documentary accounts of days at the nursery school; trips with the school bus; attendance at births, funerals, parties, P.T.A. meetings and conversations with all ages represented in this isolated mountain community. Many photographs illustrate the story.

The reader is free to draw his own conclusions and to agree or disagree with the findings as summarized by the author. These significant statements are made: "A more or less negative type of security turns out to be a rather high price to pay for the avoidance of turmoil. Clearly, conflict itself is not the thing to be feared but, rather, the denial or absence of it, the inability to deal with it."

Teachers who are interested in improving their methods of guidance, educational leaders who are making a study of factors influencing the grouping of children, parents who face problems in the use of restraints with children, psychologists who ponder enigmas in the socialization of children, and sociologists who are gathering further evidences of the effect of social customs on group patterns of living will read this book with interest and sense its implications for further analysis and study.

As Barbara Biber states in the foreword, "It demonstrates with a new clarity how essential it is that studies of children should be studies of *children-in-their-life-situations*. It describes and analyzes not so much the behavior of the children as the reactions to the influences impinging upon them, and in so much provides a healthy antidote to the errors and fallacies of the 'norm' approach to the understanding of child development."—*Eugenia Hunter, Department of Education, The Woman's College of the University of North Carolina, Greensboro.*

WHY PUPILS FAIL IN READING. By *Helen M. Robinson*. Chicago: University of Chicago Press. Pp. 257. \$3.

Why Pupils Fail in Reading presents the most intensive study yet made of a series of reading cases. Thirty children were examined by a total of eleven specialists in physical, mental and social problems. Curative treatment was given by the Orthogenic School of the University of Chicago. The resulting report deserves the study of all those deeply interested in the reading field. Because all phases of the children's lives were examined, those interested in child development and children's emotional disturbances will also be interested.

The first part of the book presents past literature on causes of reading difficulty. The second part presents the findings of the specialists who studied the thirty cases. In the third part twenty-two of the case studies are given in detail. Perhaps the most valuable method of studying the data is to read the case studies, imagining the actual children and then to read the tables showing the specialists' findings, to locate the facts in each case. One can have the interesting experience of seeing whether he agrees with the specialists in their weighing of the possible causes of each reading difficulty.

The reader should be warned that the cases deal with every type of speech defect, visual difficulty, and home maladjustment. Reading problems are only one of the difficulties. Each case presents such complex problems that it is little wonder the board of eleven specialists was often baffled and uncertain what to do.

Because Miss Robinson presents so much

original data rather than just summaries of it, the public school teacher can study the individual case histories from the point of view of her own problems. Of the twenty-two cases given in full, three describe the children as immature in entering school. Was this initial failure perhaps the key to the later maladjustment? Another case reports that this child memorized the first grade books, entered second grade without sight vocabulary, and then was pushed on without repeating a grade. What could result from such a procedure but reading maladjustment? Another case reports the child's "attention constantly elsewhere." Two cases report extended absences of the children from school. Of one "it was recommended that he sit in the front of the room (because of poor hearing) but the teacher could not carry this out because he was too tall." Thus many insights are given into the relationship between school practices and children's reading difficulties.

This study agrees with others in ascribing failure in reading to a group of causes, all of which contribute to an unknown degree. It also verifies the conclusion that every child is an individual case requiring personal knowledge before the right aid can be given. If the measures used in correction had been given in detail, the reader would have helped, perhaps, in using the results of the study. Why they failed or succeeded is not analyzed. In spite of this, the material will be both challenging and useful to students of children's reading problems.—E. W. Dolch, *University of Illinois*.

THE NATURE AND CONDITIONS OF LEARNING. By Howard L. Kingsley. New York: Prentice-Hall, Inc. Pp. 579. \$6.

This book provides a thorough, academic discussion of the nature, conditions and essential features of learning which is presented as an active process through which changes in behavior result. The author defines the nature of learning, devotes a chapter to each of six principles of learning and presents a chapter on each of the seven forms of learning. He has been generous in his use of experimental evidence and the chapters are filled with illustrations. Furthermore, many suggestions are made to teachers in regard to the organization of learning experiences to comply with the principles discussed.

Teachers are urged to organize learning experiences into meaningful wholes and some suggestions are given concerning the fusion of

fields. In nearly all instances the points involve what should be done rather than concrete examples of how it may be done. The discussion appears less concrete in the chapter dealing with the development of attitudes and ideals than is the case with those dealing with other forms of learning.

The author has developed a logical arrangement of the subject matter in the field of learning. The treatment is simple and without doubt easy for a college student to grasp. The contributions of the various schools of psychology are used with a good deal of insight.

The organization of the field of educational psychology employed by the author is the usual approach. What is sadly needed, if we are to develop intelligent teachers who will practice principles of learning, is a unification of the principles of child development, the accepted principles of learning and the methods involved in organizing purposeful learning experiences in accord with the maturation of children. It seems that educators must get away from the compartmental approach in schools of education and develop more functional and less academic plans and procedures. There is altogether too little carry over from reading-lecture-discussion methods to school classrooms filled with live children.

This book will be very usable in teacher education where the functional approach is operative, for the discussion of learning is simple and comprehensive. It will be very suitable in the usual university course in the psychology of learning.—Samuel J. McLaughlin, *Professor of Education, New York University*.

TEACHING BEGINNERS IN A RURAL SCHOOL. By Clara O. Wilson, Lincoln, Nebraska: University Publishing Company. Forty cents.

Psychologically sound, practical, and sure to be helpful is this booklet of suggestions for the first year in the country school. Designed for both rural teachers and teacher education institutions, it is based on five years of research into the spontaneous interests of five-year-old children in seven widely scattered counties. The activities current in successful kindergartens have been adapted to a rural seasonal setting. This booklet fits schools as they are and should prove of definite value to teachers.—Clara Evans, *assistant professor, University of Nebraska*.

Books FOR CHILDREN . . .

THE TEN COMMANDMENTS IN TODAY'S WORLD. By Frances Fullerton Neilson. Drawings by Nils Hogner. New York: Thomas Nelson and Sons. Pp. 40. \$2.

This book shows in a beautiful, dignified manner how the ten commandments can work in the world today, thereby making boys and girls and men and women better. How these laws were given to Moses by God is followed by a page or two about each of the commandments, well illustrated in shades of gray. Each commandment is related to the New Testament by quotations from the sayings of Jesus. This book, written in simple language, is as real a contribution to the moral and religious thinking of children as *One God*. It is a book every parent and church school teacher should own. It will be enjoyed by all children regardless of age.

GOD'S FIRST CHILDREN. By Esther Salminen. Illustrated by Kaj and Per Beckman. New York: Roy Publishers. Pp. 124. Price \$2.

This book, translated from the Swedish into simple language, is an exquisite, delicate addition to the Biblical heritage of the children of this generation. The format of the book is dignified but the type is so clear that it will attract a child. The choice of stories is good and there is an intimacy about the style that makes the characters live.

OLD CON AND PATRICK. By Ruth Sawyer. Illustrated by Cathal O'Too'e. New York: Viking Press. \$2.

A homey, folksy story of a courageous boy who overcomes obstacles and by so doing becomes a member of his school gang. Patrick was an agile youngster until infantile paralysis cut him off from his activities, forcing him to hobble along like Old Con, his grandad. Old Con gives Patrick a puppy—Mr. McPherson—and a blue jay who spurs him to success.

AMERICA'S PAUL REVERE. By Esther Forbes. Illustrated by Lynd Ward. Boston: Houghton Mifflin Company. Pp. 46. \$2.50.

All those who enjoyed reading Esther Forbes' Pulitzer prize-winning biography of Paul Revere will welcome this well-written, beauti-

fully-illustrated book for children. Every American child should be proud to own this splendid introduction to a versatile man who made so many more contributions to our history than just his famous ride. A gift book for children ten up to be cherished always.

A POCKETFUL OF RHYMES. Edited by Katherine Love. Illustrated by Henrietta Jones. New York: Thomas Y. Crowell. Pp. 134. \$1.75.

Only the very best rhymes are included in this anthology. What fun teachers and children will have reading these poems together! Rossetti, De la Mare, Lindsay, Field, Stevenson, Coatsworth, Richards, Lear, Farjeon, Frost, Tennyson, Scott and numerous other tried-and-true poets are represented. The unusual, dainty black-and-white line drawings are just right and add much to this book which every child regardless of age should own.

MY DOG RINTY. By Ellen Tarry and Marie Hall Ets. Illustrated by Alexander and Alexandra Alland. New York: Viking Press. Unpaged. \$1.50.

David loved Rinty but Rinty got into all kinds of difficulties by chewing rugs and cords. It looked as if they were doomed to be separated but an understanding newspaper editor and a generous lady made it possible for David to keep his dog and pay for his food, which makes a satisfying and unique ending to this poignant picture of family life in Harlem. Photographs of the flower shop, the grocery store, the hospital, the playground, storytelling time at the library and many others stress the likeness of Harlem to any other place where family and neighborhood relationships are good.

THE MONKEY WITH A NOTION. By Glenn O. Blough. Illustrated by John F. DeChuir. New York: Henry Holt and Company. Pp. 87. \$2.

Miss Peasley, the owner of a pet shop, was most perplexed to find many queer things happening in her shop. Finally, with the help of a constable and a little boy she found that Snick, the Monkey, unlatched all the cages at night. What she did then makes a most unusual tale which will delight the six- to nine-year-olds.

Bulletins AND PAMPHLETS . . .

Education Abroad

THE TEACHER AND THE POSTWAR CHILD IN WAR-DEVASTATED COUNTRIES. Prepared by Leonard S. Kenworthy. Paris, France: Unesco House, 19 Avenue Kleber. Printed in Great Britain by the Frederick Printing Co., Ltd., 23 Leonard Street, London E.C. 2. Pp. 48.

Sympathetic but practical guidance is given in this pamphlet for European teachers confronted with the problems of ruined school buildings, little or no textbook material or other equipment and orphaned, crippled or diseased children. Suggestions are offered for coping with children who have learned to steal and deceive, who have taken an active part in underground work, who have become subtly imbued with the sadism which has surrounded them the major part of their lives.

Many of the questions answered in the bulletin contain implications for all teachers: What shall we do for the children who resist authority, who are intolerant and prejudiced, who see no value in further education, who read only sensational books? How can we meet the problems of teacher shortages and larger classes?

American teachers should read this booklet. It will give them a deeper understanding of the almost insurmountable difficulties facing the teachers of war-devastated countries.—K. K.

REPORT OF THE UNITED STATES EDUCATION MISSION TO GERMANY. Prepared by George F. Zook and others. Department of State. Publication 2664. European Series 16. Washington 25, D. C.: Superintendent of Documents, U. S. Government Printing Office. Pp. 50. Fifteen cents.

This report on the efforts of the United States to break up the caste system pervading the German schools and to educate the German people away from reliance upon authoritarianism and aggressiveness should be of special interest to teachers. As teachers we subscribe to the underlying philosophy of the report—the belief that democracy is not dogma but a human spirit, and that it is the schools' responsibility to cultivate reverence for human beings.

Contrary to the opinion held by some that it is not possible to identify and eliminate those flaws in German society out of which spring aggressive tendencies, the members of the mission report optimistically upon the progress being made. They warn, however, that nowhere in the world "has it been possible to erect the structure of successful democratic self-government upon starvation or economic disorder."—K. K.

EDUCATION IN PERU. By Cameron D. Ebaugh. Bulletin 1946. No. 3. Pp. 91. Twenty cents. **EDUCATION IN COSTA RICA.** By John H. Furbay. Bulletin 1946, No. 4. Pp. 62. Fifteen cents. **EDUCATION IN COLOMBIA.** By John H. Furbay. Bulletin 1946, No. 6. Pp. 111. Twenty-five cents. Federal Security Agency, U. S. Office of Education, Washington 25, D. C.: Superintendent of Documents, U. S. Government Printing Office.

College students and teachers interested in making comparative studies of the development and progress of education in our neighboring countries to the south will find these booklets and others in the series informative and useful. Based upon data gathered by the authors from firsthand observation and supplemented through documentation, these bulletins were prepared under the supervision of Alina M. Lindegren.

In each bulletin there is a brief but comprehensive introduction to the people of the country, its products and resources, a history of education during its colonial period, and the status of education under the present republic. Information is provided concerning kindergarten, elementary, secondary and higher education, the training and status of teachers and provisions for public welfare agencies.—K. K.

Education at Home

KEEP OUR PRESS FREE. By Robert E. Cushman. Public Affairs Pamphlet No. 123. New York 16, N. Y.: Public Affairs Committee, Inc., 22 East 38th Street. Pp. 32. Ten cents.

From the "bootleg" press of the earliest days to the modern press of monopolistic tendencies the author traces the long and continuous

struggle of the press to free itself from official censorship and governmental restraint.

Pointing to the fact that the publishing of newspapers and magazines has become big business with a trend toward concentration and increased standardization, the author places the responsibility for irresponsible journalism upon the shoulders of public opinion.—K. K.

SENSE AND NONSENSE ABOUT RACE.

By Ethel J. Alpenfels. *A Study and Action Pamphlet on Race Relations.* New York 10, N. Y.: Friendship Press, 156 Fifth Avenue. Pp. 47. Twenty-five cents.

This booklet of scientific truth is a *must* for all who wish to know the essential facts about race. The author collected about seven thousand questions that bothered young people, summarized them into fifty basic questions, and answered those most frequently asked.

Readers of the booklet will become convinced that although there are superior individuals, there are no superior races. Our likenesses are greater than our differences; we are all of one blood—H. M. L.

SHOULD THE GOVERNMENT SUPPORT SCIENCE? By Waldemar Kaempffert. *Public Affairs Pamphlet No. 119.* New York 20, N. Y.: Public Affairs Committee, Inc. Pp. 32. Ten cents.

This bulletin contains the warning that long-range planning in scientific research is inevitable if the United States is to go forward in organizing our scientific and industrial resources. The need for over-all purpose and direction in science is evident, according to the report in the bulletin. The author points out that great leaders throughout our country's history—Franklin, Jefferson, Lincoln, and Roosevelt—realized the possibilities of government-supported science and encouraged the promotion of useful scientific knowledge. He also claims that there is no basis for fearing control as an implication of "planning."—H. M. L.

THE STATE AND SECTARIAN EDUCATION. Prepared by the Research Division of the National Education Association. Bulletin No. 1, Vol. XXIV. Washington 6, D. C.: The Association, 1201 Sixteenth Street, N. W. Pp. 44. Twenty-five cents.

The relationship between church and state with respect to education is thoroughly treated in this bulletin. Facts relating to state assistance to nonpublic education are given. In the sum-

mary, thirteen points succinctly present principles pertaining to the state constitutional separation of church and state.—H. M. L.

OPINIONS ON GAINS FOR AMERICAN EDUCATION FROM WARTIME ARMED SERVICES TRAINING. Prepared by M. M. Chambers and the Commission on Implications of Armed Services Educational Programs. Washington 6, D. C.: American Council on Education, 744 Jackson Place. Pp. 79. Price not given.

This report, which the committee cautions is preliminary and exploratory only, is offered as a summary of "inklings of thoughtful opinions of many experienced persons" concerning the topic suggested in its title.

Opinions of some 258 persons who served as educators in the armed forces show a majority expressing a need for and adaptability in civilian education of such features as better clarity and definiteness of aim; elimination of non-essential content; helpful supervision; in-service training for teachers; more and better use of visual aids; more learning by performance; better discipline; small classes and individual instruction. Civilian educators will not quarrel with the need for many of these features. The question arises, however, what is meant by "non-essential" content and by "discipline."

In the latter half of the report two thousand veterans express a favorable majority opinion concerning the pace of college instruction, the methods of teaching and testing and the work of college instructors.

Especially valuable is the annotated bibliography of material dealing with the subject of implications of armed service training.—K. K.

COURT DECISIONS ON TEACHER TENURE. Prepared by the Committee on Tenure and Academic Freedom of the National Education Association. H. B. Allman, Chairman. Washington 6, D. C.: The Association, 1201 Sixteenth Street, N. W. Pp. 23. Twenty-five cents.

The material in this digest has a two-fold value. It may be read (1) for an understanding of the rights granted to and the responsibilities assumed by teachers who come under tenure provisions and (2) it may be used by persons interested in drafting tenure laws. For reference convenience the material is classified under two headings: Part I, according to subject matter; Part II, under states.—K. K.

News HERE AND THERE...

New A.C.E. Branches

Decatur Association for Childhood Education, Illinois
Ironton Association for Childhood Education, Missouri
Okmulgee Association for Childhood Education, Oklahoma

Stillwater Association for Childhood Education, Oklahoma

Terra Alta Association for Childhood Education, West Virginia

Canadian A.C.E.

The National Federation of Kindergarten, Nursery School, and Kindergarten-Primary Teachers of Canada held its first meeting since the war in Toronto, Ontario, in October.

Noreen D. Dorrien, Toronto, was chairman of the convention committee. Clara E. Hurst, Windsor, president of the Federation, presided at all sessions. Marjorie Walsh of London becomes the new president. Among important action steps taken were:

- to affiliate with the Association for Childhood Education, (International).
- to change the name of the Federation to The Canadian Association for Childhood Education.

Bertha E. Lyon

Bertha E. Lyon, of Minneapolis, Minnesota, died October 17, 1946. For thirty years Miss Lyon was director of the kindergarten at Northeast Neighborhood House, the demonstration kindergarten for Miss Wood's Kindergarten-Primary Training School. She showed rare genius in her understanding of children, in her progressive educational ideas, and her work with teacher-training classes. She traveled widely, was broad in her political and civic interests, and left an indelible impression on all who were fortunate enough to know her. Parents, children and students all found her an unforgettable personality, warmly human, with a keen sense of humor, and a sane and sympathetic outlook on life. Her embodiment of deeply spiritual ideals made her a dynamic influence in the lives of all who worked with her, creating an immortal memorial in her honor.

Olive Norton

In January Olive Norton died in California. Miss Norton was for many years a kindergarten teacher in the Denver, Colorado, public

schools. After her retirement, she made her home in California. Miss Norton was a life member and active in the work of the Association for Childhood Education.

To Germany

On February 28 Mary Dabney Davis of the U. S. Office of Education and Bernice Baxter of the Oakland, California, Public Schools, left Washington, D. C., by plane for Berlin, Germany. Dr. Davis and Dr. Baxter go at the invitation of the War Department "as experts to advise the Office of Military Government for Germany on educational matters." Their appointments are for sixty to ninety days.

Kindergartens Provided

Nine kindergartens were opened to the five-year-old children of Alliance, Ohio, in February. Russell Schaffer, superintendent of schools, in announcing this forward step, said:

The plans have the approval of the board of education, and teachers for the new groups have been selected and appointed.

From Puerto Rico

Word has been received that a committee for delinquency prevention has been organized. Its members are representatives of cultural associations and public agencies. One of its objectives is the establishment of juvenile courts. The executive secretary of the committee is Mr. Pérez de Jesús.

Children's Village, Trogen, Switzerland

A recent bulletin of the New Education Fellowship carries this account by W. Viola of his visit to the Children's Village:

Perhaps the most striking adventure I had during one month's stay in Switzerland was a visit to the Pestalozzi Children's Village a few miles south of the Lake of Constance. There in the Canton Appenzel, near the little old town of Trogen, something quite unique is growing—a village in which war orphans from all over Europe will be brought up. Two Swiss N.E.F. members, Elisabeth Rotten and Walter R. Corti, had the idea of bringing these orphans to Switzerland, with their own teachers, not just for a short holiday but with the intention of their staying until sixteen years of age. Each nationality will have its own house. No word about international understanding will be said, but the mere fact that the children will live in the same village and share certain community activities is bound to make them world citizens in the best sense.

I was surprised to notice throughout Switzerland how well known the project was to practically everybody I met. It is a national enterprise. Needless to say, in spite of having collected so far one million francs, the whole village will cost very much more, and the maintenance will be a financial problem too. But having overcome all the objections and criticism of "wise" people in the beginning, there is every likelihood that Dr. Rotten and Dr. Corti, backed by the best Swiss teachers, by enlightened editors, and by that very good organization, "Pro Juventute," will succeed in building the first international children's village in Europe.

The International Council of the New Education Fellowship, meeting in Paris last summer, decided that the N.E.F. should take the Children's Village under its wing and give the project its patronage and help.

Children's Village, Paraguay

The latest Bulletin of the International Bureau of Education, Geneva, brings news of a Children's Village in Paraguay:

The Society of Brothers—a Christian community established in England and in Paraguay—has decided to build a village similar to that at Trogen on its large estate in Paraguay where sixty war orphans from Europe between six and eight years of age can be brought up in a peaceful and harmonious atmosphere.

The advantage of this scheme is that there is already a well-developed community with facilities for the social, physical, educational and religious well-being of its members and their children of which there are about 250 of varying ages. The estate covers some 20,000 acres of land in a very pleasant and fruitful part of the country where cattle rearing and forestry work on an extensive scale are carried on. Already two villages have been built by the Society with nurseries, kindergartens and schools as well as a hospital. The Children's Village in course of construction consists of separate houses each accommodating ten children with a married couple to care for them.

The undertaking has the warm approval of the Paraguayan Minister of Education who has promised the sympathy and cooperation of the Paraguayan Government. Arrangements are being made for the transport of the first group of thirty children direct from the continent of Europe.

N.A.N.E. Biennial Conference

The National Association for Nursery Education is holding its biennial conference August 27-29, 1947, in San Francisco, California. The headquarters for the conference are to be at the San Francisco State College, Frederic Burk School. Inquiries concerning the Conference should be addressed to Mrs. Helen Marchand, San Francisco State College. For information regarding summer school opportunities, write to Lovisa C. Wagoner, chairman of the publicity committee, Mills College, Oakland 13, California.

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A Step Forward on Behalf of Children

Eleven years ago when the Social Security Act was passed, there were written into it paragraphs of tremendous import. They were, in a short time, to open the way to "a greater measure of opportunity for thousands of boys and girls, everywhere in the country."

At that time almost half the states had no special funds or less than \$10,000 a year for maternal and child health services. Fourteen states spent less than \$3,000 a year or nothing at all for this work. In 1945 the states used \$4,800,000 of their own and local money for maternal and child health divisions in the departments of health.

Prior to passage of the Social Security Act, only a few states had a statewide program for the care and treatment of crippled children. Only a small number of children should be cared for because appropriations were so limited. Today federal funds with state funds are making child care possible for 100,000 or so physically handicapped children a year. All of the states now have well-developed crippled children's agencies.

Despite the work done in extending these three children's services by the state agencies in the last eleven years, Miss Lenroot, chief of the Children's Bureau, says:

Only a small part of the job has yet been done because funds have been lacking to do more. Many counties are still without basic health services—maternity clinics, well-baby clinics, well-baby centers, and the like, and some do not even have a public health nursing service. Some 20,000 crippled children are on state lists to receive care that has had to be withheld because money was lacking. And as for child welfare services, five out of six counties are today still without a full-time child welfare worker paid from public funds.

Children are still growing up with little or no supervision of their health and with practically no medical care. Some of these children have crippling handicaps that could be overcome.

Action by Seventy-ninth Congress in appropriating money for child health and child welfare services can well be interpreted as an expression of determination and a step toward the fuller program required eventually to meet the needs. Neither this country nor any other country can afford such neglect of its best asset, its youth.